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Page 17, line 28, for "scores. Again using . . . compared" substitute score, and developed a regression equation for predicting full scale score.

Page 19, between lines 10 and 11 from the bottom of the page insert this missing line:

D-E items discriminated between sex, boys being higher. The analysis of

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INTRODUCTION

THIS ISSUE of the REVIEW OF EDUCATIONAL RESEARCH maintains certain of the topics established in past treatments of the elementary-school program and offers some that differ. Our attempt in planning the issue has been to make it reflect the contemporary educational scene. We have not based the organization of the issue on the way the research clusters since we want both to report such research as pertains to certain major problem areas and to report gaps where they exist. It may be that the reporting of gaps as well as substantive findings will have the effect on some research workers of confirming their own impressions of the current areas in need of research.

Since we live in a time when solutions to problems are being applied in the elementary schools without consulting research findings and, in many cases, without careful consideration of the problems themselves, we also hope that this issue of the REVIEW may contribute to the restoration of sanity in educational decision making.

ARTHUR W. FOSHAY, *Chairman*
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Early and Middle Childhood

CHAPTER I

Aims of Elementary Education

HAROLD G. SHANE*

BOOKS and articles dealing directly or indirectly with the aims of elementary education have been abundant. Considered as a whole, the publications related to aims create a provocative mosaic of divergent opinion. What is more, these writings both sharply limn and clearly polarize the Great Debate which has reverberated around American education since the late 1940's.

Two general impressions may be gleaned from the Great Debate. First, it is at least as strident as it was 5 to 10 years ago; second, a Great Reappraisal of educational practices and conditions is well under way, and the positions taken by opposing writers can be identified with reasonable clarity.

Preparation and Organization of Chapter

Approximately 400 current books and recent articles related to the aims of elementary education were identified in the process of preparing the present report. Some 80 of these items proved to be pertinent enough to be cited here. In an effort to achieve some coherence in the résumé, the writings were grouped into three broad categories: (a) general comments which have a bearing on elementary education, (b) statements of goals which were deemed "traditionalist," and (c) the more liberal or "modernist" viewpoints with respect to objectives.

General Statements Related to Aims

A helpful statement regarding current divergencies of opinion with respect to aims was made by Adler and Mayer (1). They used three paired and opposing positions to illustrate patterns of conflicting opinion. The first conflict delineated was between the *aristocratic* and the *democratic* concepts of the aims of education. The democratic position was further divided into the *realist* camp (advocating differentiation in basic education) and the *idealist* camp (which would abolish differentiation in basic education). Finally, Adler and Mayer contended that the democratic-idealist group is split into *traditionalists* and *modernists* with respect to

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the aims of a liberal and a liberating education. They subsequently state that

> both the traditionalist and the modernist argue their position on the basis of democratic idealism. One would suppose, since they stand together against both the aristocrat and the realist, that they stand fairly close together. Far from it; the quarrel between these two is the most violent in American education. "Traditionalist" and "modernist" are the mildest epithets with which they designate each other. The traditionalist accuses the modernist of assuming that the world began yesterday, and the modernist accuses the traditionalist of assuming that it ended a century or two ago. (1:105) (Copyright 1958 by the University of Chicago)

The general literature dealing with the aims of the elementary school, and, indeed, all educational levels, was provided by a diverse group of writers, many of whom were not professional educators or "educationists." Lerner (39) maintained that the problem of establishing aims involved first settling on the kind of *society* we seek. Keppel and Wilson (33) sharpened the outlines of the issue as to what aims shall be accepted and characterized the traditionalist and modernist positions when they argued that the choice lies between whether the schools should attempt to teach only the skills of the mind or whether they should be held responsible for health, recreation, and a whole host of activities.

Cocking (9) editorialized that the issues of (a) whether the traditional values of worth and dignity of the individual shall be maintained and (b) whether we shall continue to provide equality of educational opportunities must be settled as we determine educational aims. Stevenson (49) expressed the view that scientists had a duty as citizens to evaluate educational processes and practices and to speak as amateur educational philosophers on educational aims.

Diverse views regarding aims, in a broad general context, were reviewed in the *Senior Scholastic* (44); and an overview of world trends, by Fernig and McDougall (16), UNESCO staff members, who proposed that we examine our educational goals on a world-wide scale. Wylie (60) contrasted the American and the French aims in educating children, a key point being that in the United States there is greater emphasis on development of the child as a person as distinct from the French aim of training him as a scholar.

Among other general comments on aims, a treatise which merits mention as a penetrating exposition of educational goals or positions is Berkson's *The Ideal and the Community* (3). Progressive, essentialist, perennialist, and social reconstructionist viewpoints are examined critically prior to Berkson's presentation of educational aims which he proposed be taken from man's cultural and spiritual achievements, not from his biological and natural origin. Edel (14) pointed to the need to gear our objectives to changing times, and Hancher (19) responded to critics of liberal educational aims by pointing to the unfairness of denunciations

which failed to allow for changes in the pupil population served by American schools.

Statements of Traditionalist Aims

Statements of fundamentalist or essentialist aims for elementary education, which stressed classical humanism, fundamental knowledge, or the three R's, may be found in many sources, often in the writings or statements of persons not directly concerned with professional education.

General Statements of Traditionalist Aims

Stockdale (50:637), a British headmaster, expressed himself in favor of "a full cultural education with interrelated academic and practical work," and Kallen (29:179) wrote of the aim of helping children and youth to perceive, to understand, to cherish, and to support the cultural and social heritage. King (35:419), also dealing with philosophical goals, wrote of the need for education to be "more concerned with universal absolutes and spiritual significance than is pragmatism."

The emphases on (a) culture in general, (b) the cultural heritage, and (c) certain universal absolutes expressed by the authors cited above are representative of the objectives of perennialist-essentialist (or traditionalist) writers which have been reiterated for many years in the past, including the three-year period encompassed by the present chapter. An acrimonious note was injected in the Great Debate by Keats (31) in his *Schools Without Scholars*, which expressed the alarm of certain essentialists lest "dubious fripperies slither into the curriculum" (31:111).

Explicit Statements of Traditionalist Aims

The viewpoints of Bagley (2), voiced nearly 25 years ago and recently reprinted, sounded contemporary when read along with current fundamentalist-essentialist writings. Bestor (4:7), for instance, continued to stress that the function of education is to provide sound training in the fundamental ways of thinking represented by history, science, and the other disciplines. Woodward (59) called for more work in the traditional fields, and Admiral Rickover and Herbert Hoover made statements to *Time* magazine (52) deploring, respectively, that elementary-school children took trips to the fire department or the bakery and that in high school they took "soft" courses rather than science and mathematics.

Rickover (43) selected the task of educating the talented to their maximum potential as the principal objective of the schools. To this end he urged that able children be segregated on the basis of IQ scores at age 10 or 11, that they complete their general education in 14 years, and that they be ready for specialized graduate study at 19 or 20 years of age.

Woodring's primary aim of education (58) was to enable the student to make wise decisions throughout his life, a goal that was not inherently traditionalist as phrased, but which in the context of his book, became

clothed in learnings more nearly essential. Woodring wrote of the need for drastic reorganization of American education, was concerned by the de-emphasis of knowledge, and noted the need for the young to acquire a great deal of accurate information which presumably they had not been obtaining.

One more voice raised for essentialism was that of the scientist, Urey (53), who stated that another fallacy is that the purpose of education is to develop the personality of the individual, not primarily to acquire knowledge. Segregation of children on the basis of capacity and increased financial support for education were means which Urey believed would help attain higher academic standards. Hutchins (27:71-73) probably can be placed in the traditionalist camp, too, for advocating the objective of education as "the improvement of men" accomplished through the education appropriate to free men, a liberal education, which "aims to develop the powers of understanding and judgment."

Modernist Aims

A substantial number of writers with modernist or liberal views attempted (a) to make the point that there are flaws and merits on both sides of most issues related to educational aims or (b) to take a moderate and noncontroversial position with respect to elementary aims. In this vein, James (28) commented that needs can determine goals, Hunt (26) dealt with guidance as a means of meeting the goal of self-realization, Kropp (37) discussed the role of evaluation in clarifying the goals of good citizenship, and Smith (47) pointed out the fact that home, church, and similar agencies shared the schools' responsibilities for achieving educational aims.

Commager (10), the historian, wrote on aims in a nonprovocative manner and singled out such middle-of-the-road goals as respect for law, encouraging the open mind, freedom and faith, and cherishing Americanism and true loyalty—goals to which few traditionalists or modernists would object. Cousins (12) temperately declared himself in favor not of finding new goals, but of making old ones work. He also spoke out in behalf of various freedoms: (a) from stagnation, (b) to do one's best, and (c) to live with a spirit of adventure.

Comparably temperate statements of liberal aims are abundant: Klausmeier and others (36), who reiterate the four major objectives of the Educational Policies Commission originally published in 1938; Chase (8), who selected four goals (of which to give every child a sense of being a valued member of the school is typical); and Seyfert (45), who chose three aims, e.g., development of a commitment to the democratic way of life.

Middle-of-the-road to liberal positions, as represented above, tend to be noncontroversial with respect to aims because they are not closely identified with means (methods or practices). There are, however, other

statements which are somewhat more specific in this regard. Among the most explicit modernist "middle way" objectives in magazines or yearbooks are lists prepared by Carr (5), Feigl (15), and Willis (57). Carr identified 16 purposes under the headings of opportunity, quality, freedom, and diversity. Under opportunity, for instance, he listed "instruction to meet the varying needs of individuals as well as those needs shared by all." Representative of Feigl's seven broad goals for education is "help mankind grow toward the sort of maturity our present world requires." In his list of eight points Willis includes such items as "to develop a sense of personal responsibility" and "to develop continuing interest in learning."

Kyte (38), Mathewson (41), and Kearney (30) have published books which deal entirely or in part with explicit aims. After reviewing various statements of goals (e.g., by the Educational Policies Commission), Kyte identified two general modernist elementary-school objectives: (a) education in the democratic way of life and (b) education for maximum individual development (including essential knowledge, fundamental habits and skills, and right attitudes). Mathewson (41:83) selected education (a) for effective personal functioning and use of subjective processes, (b) for effective relational activity, and (c) for value orientation.

Kearney's statement of elementary-school aims, prepared under Russell Sage Foundation auspices, presented specific objectives outlined by a distinguished group of consultants and evaluated by carefully selected critics (30:10). Major goals were treated under nine categories involving health, socioemotional development, ethical behavior, leadership, citizenship, knowledge, aesthetics, communication, and quantitative thinking.

Stronger Statements of Modernist Aims

Although distinctions are difficult to draw, modernist statements of aims which appeared to be more strongly phrased were characterized by greater emphasis on the elementary school's responsibilities for total human development; on helping children grasp the implications of a dynamic culture for social change; on intercultural understandings; and on utilizing subject matter, skills, and knowledge as *means* to human development in a social context rather than as *ends*. Among the crisply stated modernist aims were those of Caswell (6), who reviewed seven challenges to the United States (e.g., discovery of how to use atomic energy for human welfare) and then went on to state four aims suggested by his seven problem-challenges: (a) balance and interrelationship between general-liberal and vocational-professional education, (b) education which is increasingly effective in influencing pupil behavior, (c) development of attitudes and methods of work which lead the individual to continue his education throughout life, and (d) education so conducted that the individual and his development are the constant focus of attention.

Hoppock (24), in her statement of five goals, emphasized individual development and the strengthening of democratic skills while warning

against education for an elite based on the assumption that some children are more worth educating than others. Harris (20) remarked on the need to continue humaneness, enrichment experiences, and the universality of American education. Harris (21:247) stated his belief that "the demand for self-discipline, cooperativeness, safety education, and thorough vocational training has become so insistent that traditionalism is a brand of irresponsibility."

Hunnicutt and others (25) prepared a comprehensive statement of the challenge to elementary education between 1956 and 2000 which directly or indirectly suggests important goals of social improvement. Caswell and Foshay (7:54), in a revision of their standard work on elementary education, preserved nine durable aims, of which representative excerpts are (a) making the school an integral part of the community it serves, and (b) analyzing and developing the interests, needs, and capacities of children.

One last example suffices to delineate the nature of many résumés of liberal or modernist aims appearing between 1955 and 1959. Nine elementary-school citizenship outcomes or aims selected by Shane and McSwain (46: 45-46) were (a) physical well-being; (b) mental and emotional health; (c) the development of individuality and individual promise through equal opportunity; (d) stimulation of clear, creative thinking; (e) acquisition of useful skills and knowledge; (f) building social and economic literacy; (g) achieving familiarity with the practical machinery of democracy at the child's level; (h) creating insights into the meaning of democracy and loyalty to its ideals; and (i) developing skill in human relationships.

The aims reviewed in the preceding paragraphs are phrased differently and changed slightly in emphasis in many other recent statements, but each tends to reinforce the others. This is true of objectives set forth in articles by Condon (11), Drummond (13), Fisher (17), Giles (18), Hopkins (23), Kelley (32), Kilpatrick, Davis, and Holmes (34), McSwain (40), Morphet (42), Taylor (51), Van Til (54), and Washburne (55). Current books by Herrick and others (22) and Stendler (48) that deal with elementary education also enunciate strong modernist aims.

Finally, after reviewing statements regarding the aims of elementary education, it seems feasible to conclude that there *is* a striking agreement between traditionalists and modernists—to use Adler and Mayer's terms—as to broad aims such as social responsibility and intellectual growth. But there is a chasm between liberal and conservative writers with respect to what shall be emphasized and *how* sought educational values best can be realized.

A fascinating question for the passing years to answer is posed by Whyte (56:110). "I return to my pessimistic forecast," he wrote. "Look ahead to 1985. Those who will control a good part of the educational plant will be products themselves of the most stringently anti-intellectual training in the country." With impartial acerbity, Whyte went on to say that in "the

new suburbia the bulk of middle-class parents of 1985 will know no other standards to evaluate education of their children than those of the social-adjustment type of schooling."

Many traditionalists appear to accept Whyte's dim view; most professional educators stand by their guns and defend liberal trends pioneered in the elementary schools during the 1920's and 1930's. Whether the modernists will prove to have built contravallations superior to the fortresses of the traditionalists remains in doubt, but their verbal battle promises to carry over with unabated vigor into the 1960's.

Bibliography

1. ADLER, MORTIMER J., and MAYER, MILTON. *The Revolution in Education.* Chicago: University of Chicago Press, 1958. 224 p.
2. BAGLEY, WILLIAM C. "Is Subject Matter Obsolete?" *Education Digest* 20: 35-37; May 1955.
3. BERKSON, ISAAC B. *The Ideal and the Community: A Philosophy of Education.* New York: Harper and Brothers, 1958. 302 p.
4. BESTOR, ARTHUR E., JR. *The Restoration of Learning: A Program for Redeeming the Unfulfilled Promise of American Education.* New York: Alfred A. Knopf, 1955. 459 p.
5. CARR, WILLIAM G. "Purposes of Education." *NEA Journal* 47: 303-304; May 1958.
6. CASWELL, HOLLIS L. "Great Challenges for Education." *Teachers College Record* 59: 69-75; November 1957.
7. CASWELL, HOLLIS, and FOSHAY, ARTHUR. *Education in the Elementary School.* Third edition. New York: American Book Co., 1957. 430 p.
8. CHASE, FRANCIS S. "Schools I Hope To See." *NEA Journal* 46: 164-66; March 1957.
9. COCKING, WALTER D. "Crisis in American Education." (Editorial) *School Executive* 78: 7; September 1958.
10. COMMAGER, HENRY S. "Our Schools and the Climate of Freedom." *National Parent-Teacher* 49: 14-16; September 1954.
11. CONDON, ANNA A. "Put Elementary School Objectives on Paper." *School Executive* 72: 39-42; July 1953.
12. COUSINS, NORMAN. "Great Debate in American Education." *Saturday Review* 37: 11-13; September 11, 1954.
13. DRUMMOND, HAROLD D. "How Can We Decide What To Teach?" *National Elementary Principal* 37: 8-11; October 1957.
14. EDEL, ABRAHAM. "What Should Be the Aims and Content of a Philosophy of Education?" *Harvard Educational Review* 26: 119-26; Spring 1956.
15. FEIGL, HERBERT. "Aims of Education for Our Age of Science: Reflections of a Logical Empiricist." *Modern Philosophies and Education.* Fifty-Fourth Yearbook, Part I, National Society for the Study of Education. Chicago: University of Chicago Press, 1955. p. 304-41.
16. FERNIG, LEO R., and MCDOUGALL, J. F. "Trends in World Education." *Phi Delta Kappan* 37: 377-86; June 1956.
17. FISHER, WILLIAM H. "Ends and Means Reconsidered." *Education* 78: 304-308; January 1958.
18. GILES, HERMANN H. "Implications for Education." *NEA Journal* 46: 383; September 1957.
19. HANCHER, VIRGIL M. "Critics of Education." *School and Society* 80: 30; July 24, 1954.
20. HARRIS, BEN M. "Education for Today and Tomorrow." *Childhood Education* 34: 108-11; November 1957.
21. HARRIS, ROBERT T. "Aims of the Public Schools." *AAUP Bulletin* 39: 243-53; June 1953. Condensed: *Education Digest* 19: 23-26; March 1954.
22. HERRICK, VIRGIL E., and OTHERS. *The Elementary School.* Englewood Cliffs, N. J.: Prentice-Hall, 1956. 474 p.

23. HOPKINS, LEVI T. "Curriculum and the Future." *Educational Leadership* 15: 298-302; February 1958.
24. HOPPOCK, A. S. "No Time for Panic." *National Elementary Principal* 37: 39-44; May 1958.
25. HUNNICUTT, CLARENCE W., editor. *Education 2000 A. D.* Syracuse, N. Y.: Syracuse University Press, 1956. 321 p.
26. HUNT, HEROLD C. "Looking Ahead: Crucial Issues in Education." *Personnel and Guidance Journal* 34: 260; January 1956.
27. HUTCHINS, ROBERT M. *The Conflict in Education in a Democratic Society.* New York: Harper and Brothers, 1953. 112 p.
28. JAMES, BERNARD J. "Can Needs Define Educational Goals?" *Adult Education* 7: 19-26; Autumn 1956.
29. KALLEN, HORACE M. "Aims and Content of a Philosophy of Education." *Harvard Educational Review* 26: 175-79; Spring 1956.
30. KEARNEY, NOLAN C. *Elementary School Objectives: A Report Prepared for the Mid-Century Committee on Outcomes in Elementary Education.* New York: Russell Sage Foundation (505 Park Avenue), 1953. 189 p.
31. KEATS, JOHN. *Schools Without Scholars.* Cambridge, Mass.: Houghton Mifflin Co., Riverside Press, 1958. 202 p.
32. KELLEY, EARL C. "The Road We Must Take." *Educational Leadership* 14: 284-87; February 1957.
33. KEPPEL, FRANCIS, and WILSON, SLOAN. "Goals for Our Schools." *Saturday Review* 38: 17-18; September 10, 1955.
34. KILPATRICK, WILLIAM H.; DAVIES, A. POWELL; and HOLMES, GRACE BOK. "These Values We Hold Dear." *Childhood Education* 31: 4-8; September 1954.
35. KING, DONALD B. "Our Schools and Our National Philosophy." *Catholic World* 179: 413-19; September 1954.
36. KLAUSMEIER, HERBERT J., and OTHERS. *Teaching in the Elementary School.* Exploration Series in Education. New York: Harper and Brothers, 1956. 614 p.
37. KROPP, RUSSELL P. "Evaluation and the Ultimate Objectives of Education." *Educational Administration and Supervision* 40: 49-53; January 1954.
38. KYTE, GEORGE C. *The Elementary School Teacher at Work.* New York: Dryden Press, 1957. 530 p.
39. LERNER, MAX. "American Civilization: Goals and Values." *NEA Journal* 47: 458-60; October 1958.
40. MCSWAIN, ELDRIDGE T. "Good Teaching; For What?" *NEA Journal* 44: 573-74; December 1955.
41. MATHEWSON, ROBERT H. *Strategy for American Education: An Inquiry into the Feasibility of Education for Individual and Social Development.* Education for Living Series. New York: Harper and Brothers, 1957. 296 p.
42. MORPHET, EDGAR L. "Determining What the Public Schools Should Do." *National Elementary Principal* 34: 17-20; October 1954.
43. RICKOVER, HYMAN G. "Let's Stop Wasting Our Greatest Resource." *Saturday Evening Post* 229: 19, 108-109, 111; March 2, 1957.
44. SENIOR SCHOLASTIC. "U. S. Schools . . . Which Way Ahead?" *Senior Scholastic* 73: 8-10; October 10, 1958.
45. SEYFERT, WARREN C. "What Are the Fundamentals?" *Elementary School Journal* 54: 324-32; February 1954.
46. SHANE, HAROLD G., and MCSWAIN, E. T. *Evaluation and the Elementary Curriculum.* New York: Henry Holt and Co., 1958. 436 p.
47. SMITH, DAVID W. "What Do We Want for Our Children." *Bulletin of the National Association of Secondary-School Principals* 42: 146-51; September 1958.
48. STENDLER, CELIA B. *Teaching in the Elementary School.* New York: Harcourt, Brace and Co., 1958. 541 p.
49. STEVENSON, C. L. "The Scientist's Role and the Aims of Education." *Harvard Educational Review* 24: 231-38; Fall 1954.
50. STOCKDALE, G. "Modern School Objectives." *London Times Educational Supplement* 2043: 637; June 25, 1954.
51. TAYLOR, HAROLD A. "Education: For What and for Whom?" *School and Society* 83: 39-43; February 4, 1956.
52. TIME. "What Price Life Adjustment?" *Time* 70: 53; December 2, 1957.

53. UREY, HAROLD C. "Some Observations on Educational Problems in the United States with Particular Reference to Mathematics and Science." *School Science and Mathematics* 58: 168-74; March 1958.
54. VAN TIL, WILLIAM A. "Aims and Issues of American Education." *School and Society* 86: 266-67; June 7, 1958.
55. WASHBURNE, CARLETON W. "Education Today for the 21st Century." *Childhood Education* 33: 341-43; April 1957.
56. WHYTE, WILLIAM H., JR. *The Organization Man.* New York: Simon and Schuster, 1956. 429 p.
57. WILLIS, BENJAMIN C. "Using the Criticism of Public Schools for Constructive Purposes." *Elementary School Journal* 55: 13-23; September 1954.
58. WOODRING, PAUL. *A Fourth of a Nation.* New York: McGraw-Hill Book Co., 1957. 255 p.
59. WOODWARD, HERBERT P. "Ends of Education." *AAUP Bulletin* 40: 32-44; September 1954.
60. WYLIE, LAURENCE. "Bringing Up Children: The French Way, Our Way." *New York Times Magazine,* June 30, 1957. p. 9.

CHAPTER II

Organization of the Curriculum

G. WESLEY SOWARDS

THE BEST and most efficient way to select and organize the experiences which the school provides to children is a perennial question, open to constant scrutiny and discussion. It should also be a question subject to research. This chapter reviews the research of the last few years. Inasmuch as the June 1957 issue of the REVIEW dealt with curriculum planning and development, an effort has been made to avoid duplication. Research workers and students of curriculums are urged to supplement this discussion by reference to that issue.

General Curriculum Organization

Curriculum theorists continue to inspect the ideas and theories advanced for the organization of the elementary-school program, hoping to sharpen the issues. Tyler (45) reviewed the last half century of development of curriculum theory, focusing on (a) the formulation of educational objectives, (b) the selection of learning experiences, and (c) the organization of learning experiences. Beauchamp (4) called attention to issues and trends in planning elementary-school curriculums, attempting to put them into perspective for the curriculum worker. He discussed (a) the production of curriculum guides, (b) curriculum leadership, (c) decentralization of planning, (d) efforts to find grounds for agreement, and (e) lay participation in curriculum planning. The philosophical bases of the experience curriculum were examined critically by Archambault (2). Rudman (40) called attention to the relationship that exists between textbook use and curriculum development and concluded that until materials change, curriculum will not.

Stoddard (42) argued for a different way of organizing for instruction in the elementary school. He would extend downward through the first grade a modified form of the junior high-school plan, utilizing a home teacher for half of the day and special teachers the other half day. The home teacher would be responsible for registration, counseling, reading, and social studies. Special teachers would handle mathematics, science, music, arts and crafts, recreation and health, and foreign languages. Home teachers would work with a class for one year; special teachers would follow along with children for several years.

Correspondingly, Kearney and Rocchio (26) tried to determine whether there was a difference in scores on the *Minnesota Teacher Attitude Inventory* between elementary-school teachers of self-contained classrooms and teachers of special subjects. Using scores from 587 "self-contained" teachers and 52 "specialists," they found that there was a statistically sig-

nificant difference between the mean scores of the two groups. They reasoned that it could mean that teachers who have pupils for longer periods during the day are not only interested in the pupils' acquisition of subject matter, but are also concerned with the pupils' whole personalities, whereas teachers of special subjects think in terms of the subject matter to be covered rather than the development of a self-directing personality in the pupil. Newman (37) called attention to the success in Bakersfield, California, with full-time counselors in the elementary school to assist with total pupil development. Willard (48) found that there was a relationship between the valued behavior of selected elementary-school teachers and the learning experiences which they provided in their classrooms. She concluded that positive value choices resulted in the provision of a wider pattern of experience for children, and that curriculum progress included the need to develop desirable teacher-valued behavior.

Heffernan and Bursch (20) called attention to the inevitable relationship between curriculum organization and development, and the school plant.

Harap and Merritt (18) reported on a recent survey of curriculum guides produced in the United States from 1951 to 1953. They found a marked increase in production of such guides in smaller cities; more use of the term *guide;* growing emphasis on co-operative production of such bulletins; an upsurge in material on exceptional children, home and family living, English language, arithmetic, and science; slight decline of division of work into units. Organization of courses in social studies into larger teaching units continued, with sequence based on expansion of horizons of the learner; geography as a separate subject in the elementary grades was seen disappearing; and many handbooks for parents indicated a new trend.

Schultz, Kropp, and Curtis (41) reported some findings on the educational effectiveness of the half-day session in elementary schools. They compared the achievement of two groups of children, one having had half-day sessions for all their school experience, the other having had regular day sessions. All had attended only the school in which they were enrolled. The authors found no evidence that half-day pupils differed in the basic skills from regular pupils in grades 2 and 3; at grade 4 the half-day pupils dropped behind; and in grade 5 the mean scores of the regular pupils were better. They believed that their evidence suggested a delayed reaction to the kind of experience which the half-day session can provide for children.

Special Curriculum Organization Problems

Programs for Gifted Children

Much attention has gone to the problem of designing the curriculum to assure quality learning for superior children. The survey by Havighurst

and others (19) and the descriptions by Norris (38) typically depict present procedures and programs for gifted children. Barbe (3) attempted an evaluation of the Major Work Program in the Cleveland, Ohio, schools by querying former pupils. He found general approval. Best liked features were (a) for boys, the opportunity to express individuality, curriculum differences, and freedom from regimentation; and (b) for girls, foreign languages, curriculum differences, and freedom from regimentation. The problems, as pupils saw them, were (a) the attitudes of other pupils and teachers, and (b) the lack of social contacts with other pupils. Mann (32) sought to assess the social position held by gifted children among gifted as well as among typical classmates in a program of partial segregation. Using two sociometric measures and one parent questionnaire, he found (a) that gifted children tended to accept and reject more of the gifted than of the typical and (b) that typical children tended to accept and reject more of the typical than of the gifted. He concluded that the regular class did not actually produce relationships significant enough to be classified as friendships and questioned the belief that grouping necessarily leads to acceptance.

Gallagher and Crowder (15) tried to determine the degree of difficulty undergone by highly intelligent children in adjusting to a regular classroom situation academically, intellectually, socially, and emotionally. Using a case-study method, they studied 20 boys and 15 girls, all with IQ's above 150, over a two-year period. They found a great range of individual differences and noted that acceleration, special classes, enrichment, or a traveling consultant would have been good or bad for particular children.

Parker (39) reported an experiment in Cedar Rapids, Iowa, focused on regular classroom enrichment in three elementary schools and one junior high, grades 4, 5, 6, and 7, with experimental and control groups. Mentally advanced children, defined as having IQ's of 125 or above, were studied carefully as individuals, and an educational program was planned for them. Also, experimental and control groups were set up for the average children in the classroom to see if they were affected adversely by the special treatment given the advanced children. He found that normal achievement was not disturbed by enrichment, and in many cases significant favorable differences occurred.

Durrell and Savignano (12) reported an experiment emphasizing pupil specialties in 12 intermediate-grade classes. They identified specialties or interests, and sought to determine the values of a specialties program in addition to regular classroom work. Working with control groups they found after one semester: (a) there were no statistically significant differences in gains in school achievement between experimental and control groups; (b) gains on the social distance scale, all in the same direction, favored the experimental group; (c) pupils with specialties seemed to make better use of free class time; (d) specialties groups showed im-

provement in work habits; (e) out-of-school vocabulary did not show the expected growth for the specialties group; and (f) parents tended to favor the specialties program. Miller (35) reported research in curriculum organization for the gifted under way in the Evanston, Illinois, elementary schools. Groups of equal ability, grade, and chronological age are being tested by means of different plans of enrichment or grouping.

Science

Increased concern with science in the elementary school is reflected in science curriculum research. Mallinson and others (31) reviewed the research relating to grade placement of content, curriculum vitalization, and facilities and equipment. They found a number of studies emphasizing (a) status of elementary science, (b) grade placement of topics, (c) methods of enriching the curriculum, and (d) the training of teachers. Durfee and Greenlee (11) concisely presented the research in elementary science helpful to curriculum organization. Milgram (34) and Mallinson and Buck (30) reported what they saw as implications of research in elementary-school science for curriculum, discussing organization, method, content, evaluation, and the role of children's interests in curriculum development. A number of people reported on various aspects of the total curriculum problem in science. Burnett (7) discussed the place of children's interests and questions in science as they relate to the preplanning of the science curriculum. Young (49) worked with 129 children in grades 4, 5, and 6 in an attempt to identify children's science interests that could be used in developing the curriculum in each class.

Dubins (8) called attention to trends in the elementary science curriculum as (a) more time and better place for science, (b) methodology that includes active participation, (c) use of community resources, (d) better balance between the physical and the biological sciences, and (e) improvement in textbooks. An analysis of trends and practices pertaining to scope and sequence of science instruction in elementary schools, based on a survey of science programs in 21 large city school systems in various parts of the country, was reported by Bruns and Frazier (6). They found no common well-defined pattern of scope and sequence, no great agreement as to which areas of learning should be assigned to a particular grade level, and incomplete agreement as to grade placement of topics with some little pattern of preference.

Leonelli (29) tried to determine the physical science principles which should be included in grades 1—6, to determine the reason for inclusion of the principles, and to determine the grade or grades where they should be introduced. Using 17 elementary science specialists and 84 classroom teachers, he compared principles suggested by the experts with those selected by teachers and found considerable agreement. Boyer (5) identified two outstandingly distinctive types of elementary science programs, one adequate and the other inadequate, and then sought to measure and compare the achievement of children who had experienced them. Achieve-

ment tests given to sixth-graders revealed that (a) children attending schools with adequate science curriculum patterns generally showed achievement superior to that of others, (b) children with high IQ's did fairly well in spite of the pattern of curriculum, and (c) slow learners (and to some extent average learners) scored higher when they had experienced the adequate program than did matched sets in the inadequate program.

Stuteville (43) attempted a new and creative approach to planning a comprehensive science curriculum. He derived four levels of control as criteria for content selection, related to adjustment to and control over the environment.

Foreign Languages

Mildenberger (33) called dramatic attention to the extent of programs in foreign languages at the elementary-school level. Thompson and Hamalainen (44) examined the whole problem of teaching foreign languages in elementary schools. They studied programs that had been in operation for years; they studied new programs; they examined the research and the practices in an attempt to formulate guiding principles.

Dunkel and Pillet (9) reported an experiment in foreign language instruction in grades 3 and 4 in the University of Chicago Elementary School. For 15 and 20 minutes a day all pupils are instructed in French. The authors seek to answer such questions as: (a) Is grade 3 the proper starting point for such instruction? (b) How much French can a child learn in five years? (c) How well is this amount learned? (d) Can the same material be used to start in grades 3, 4, or 5? A report on the second year of the program, involving all fourth- and fifth-grade children, has now been published (10). Their findings are encouraging but are seen as tentative and incomplete.

Justman and Nass (25) studied the school achievement of matched pairs of secondary-school pupils who were and were not introduced to the study of a foreign language in elementary school. They worked with a group of 100 who had completed the foreign-language program in two New York City elementary schools, matched with an equivalent group who had not. They found no apparent advantage, in terms of high-school achievement, accruing to pupils who had studied French in elementary school. Pupils who had studied Spanish showed a beginning advantage, but that did not persist beyond the first term of high-school instruction. Admittedly, certain aspects of the experimental design could not be handled well, such as equating quality of teaching and the nature of goals sought at the two levels, but research of this kind is needed. Kirch (27) reported his conclusions about the age at which such study should be begun. After teaching German in first, third, and sixth grades, he concluded that he would begin in grade 1, if possible, that he would coordinate the instruction with the social studies or social living programs,

and that he would prepare the regular teacher to handle the foreign language rather than use a specialist.

Social Studies

The predominant patterns of curriculum organization in the social studies were reported by Fraser (14) as being fusion and integration. She also called attention to the most common subject matter in the elementary-school social studies program. Hodgson (21) surveyed 148 city school systems to determine current practice relative to the development of the social studies program and found (a) integration, (b) fusion, (c) correlation, and (d) separate subjects, in that order, to be the most common general organizations. On the basis of opinion, city-school authorities preferred integration, 68 percent; fusion, 17 percent; correlation, 13 percent; and separate subjects, 2 percent. Internal organization in grades 1—6 in rank order was reported as (a) cycles, (b) social processes, (c) social functions, (d) problems, (e) chronology, (f) life situations, (g) biography, (h) community project, and (i) reverse chronology. City authorities rated the various forms of internal organization in social studies as follows: excellent—problems, social processes, life situations; good—social functions, community project, cycles; fair—chronology, biography, reverse chronology. Two very evident trends were reported: the continued growth of integration throughout the elementary-grades program and the relatively high rating given the problem approach to internal organization, especially in the upper elementary grades.

West (47) described a successful experience at grade-6 level in merging content in social studies and science, and urged further study. Horn (22, 23) reported an attempt to analyze court records to identify categories of conflicts in urban living to be used as a guide to the selection of content for the social studies. Huck (24) studied information possessed by 115 suburban children in grade 1 in regard to certain areas of social studies. She found their most frequent and accurate source of information to be direct experience, and television the next most frequent source but not the next most accurate. She reported that today's environment for children includes much of the adult work and goes beyond home, neighborhood, and community. She found children actively learning from their culture and called on teachers to utilize all the knowledge children bring when they begin school. Ambrose and Miel (1) comprehensively reviewed research and study of children's social learnings and suggested a rationale for this program in the elementary schools.

Arithmetic

Organization of arithmetic experiences in the curriculum was discussed by Eads (13) on the basis of 10 years' data in the New York City schools. Glennon and Hunnicutt (16) reported on recent evaluations of

the arithmetic curriculum, relating questions about arithmetic to available research. Concern over the matter of individual differences was evident. Grossnickle (17) reviewed the typical procedures utilized to reach superior pupils, and stated a position on differentiation in curriculum and the level of operation for ability groups. Moser (36) proposed provision for different stages of maturity by admitting different levels of thinking in dealing with any given concept.

Language Arts

Lazarus (28) studied the televiewing habits of selected elementary-school pupils to find out (a) how much time pupils devoted to television, (b) what this activity displaced, (c) which programs they favored, and (d) educational implications for the language arts program. He found that television was not displacing reading but was displacing hobbies and creative pursuits. He urged the school to consider bringing more creative writing, thinking, and speaking into the curriculum. An attempt at a major curriculum change in the language arts in a large city was reported by Wachner (46). The general approach is described, and evidence of success is seen.

Summary

The elementary-education curriculum specialist will find that many of the questions relating to continuity, content selection, and unit organization have still to be carefully and systematically studied. Perhaps this is due to the peculiar difficulties involved in such research efforts. Perhaps it is due to the lack of real experimental centers for childhood education whose business it would be to research these and allied matters. The impetus for such studies may be found in the current re-examination of curriculum organization at the elementary level. Such efforts are sorely needed and are to be encouraged.

Bibliography

1. AMBROSE, EDNA V., and MIEL, ALICE M. *Children's Social Learning; Implications of Research and Expert Study.* Washington, D. C.: Association for Supervision and Curriculum Development, a department of the National Education Association, 1958. 120 p.
2. ARCHAMBAULT, REGINALD D. "The Philosophical Bases of the Experience Curriculum." *Harvard Educational Review* 26: 263-75; Summer 1956.
3. BARBE, WALTER B. "Evaluation of Special Classes for Gifted Children." *Exceptional Children* 22: 60-62; November 1955.
4. BEAUCHAMP, GEORGE A. "Some Issues and Trends in Curriculum Planning." *Elementary School Journal* 56: 341-45; April 1956.
5. BOYER, DONALD A. "A Comparative Study of the Science Achievement of Pupils in Elementary Schools." *Science Education* 39: 3-12; February 1955.
6. BRUNS, RICHARD F., and FRAZIER, ALEXANDER. "Scope and Sequence of Elementary School Science." *School Science and Mathematics* 57: 560-68; October 1957.
7. BURNETT, R. WILL. "Spontaneity and Coherence in Elementary Science Experiences." *Science Education* 40: 195-203; April 1956.

8. DUBINS, MORTIMER IRA. "Some Trends and Problems in Teaching Science in the Elementary School." *School Science and Mathematics* 57: 21-31; January 1957.
9. DUNKEL, HAROLD B., and PILLET, ROGER A. "The French Program in the University of Chicago Elementary School." *Elementary School Journal* 57: 17-27; October 1956.
10. DUNKEL, HAROLD B., and PILLET, ROGER A. "A Second Year of French in Elementary School." *Elementary School Journal* 58: 143-51; December 1957.
11. DURFEE, MAXINE, and GREENLEE, JULIAN. *Elementary School Science: Research, Theory, and Practice.* Washington, D. C.: Association for Supervision and Curriculum Development, a department of the National Education Association, 1957. 67 p.
12. DURRELL, DONALD D., and SAVIGNANO, LEONARD J. "Classroom Enrichment Through Pupil Specialties." *Journal of Education* 138: 1-31; February 1956.
13. EADS, LAURA K. "Ten Years of Meaningful Arithmetic in New York City." *Arithmetic Teacher* 2: 142-47; December 1955.
14. FRASER, DOROTHY M. "The Organization of the Elementary-School Social Studies Curriculum." *Social Studies in the Elementary School.* Fifty-Sixth Yearbook, Part II, National Society for the Study of Education. Chicago: University of Chicago Press, 1957. Chapter 6, p. 129-62.
15. GALLAGHER, JAMES J., and CROWDER, THORA. "The Adjustment of Gifted Children in the Regular Classroom." *Exceptional Children* 23: 306-12, April; 353-63, 396, 398, May 1957.
16. GLENNON, VINCENT J., and HUNNICUTT, C. W. *What Does Research Say About Arithmetic?* Revised edition. Washington, D. C.: Association for Supervision and Curriculum Development, a department of the National Education Association, 1958. 77 p.
17. GROSSNICKLE, FOSTER E. "Arithmetic for Those Who Excel." *Arithmetic Teacher* 3: 41-48; March 1956.
18. HARAP, HENRY, and MERRITT, ELEANOR. "Trends in the Production of Curriculum Guides." *Educational Leadership* 13: 35-39; October 1955.
19. HAVIGHURST, ROBERT J., and OTHERS. *Survey of the Education of Gifted Children.* Supplementary Educational Monographs, No. 83. Chicago: University of Chicago Press, 1955. 114 p. Summary: *School Review* 63: 324-29; September 1955.
20. HEFFERNAN, HELEN, and BURSCH, CHARLES. *Curriculum and the Elementary School Plant.* Washington, D. C.: Association for Supervision and Curriculum Development, a department of the National Education Association, 1958. 71 p.
21. HODGSON, FRANK M. "Classification for Social Studies Organization." *Social Studies* 47: 258-60; November 1956.
22. HORN, THOMAS D. "Social Relationships and the Elementary Curriculum: Sources of Friction in an Urban Community; District Courts." *Journal of Educational Research* 50: 31-43; September 1956.
23. HORN, THOMAS D. "Social Relationships and the Elementary Curriculum: Sources of Friction in an Urban Community; County Courts." *Journal of Educational Research* 50: 257-71; December 1956.
24. HUCK, CHARLOTTE. "Children Learn from Their Culture." *Educational Leadership* 13: 171-75; December 1955.
25. JUSTMAN, JOSEPH, and NASS, MARTIN L. "The High School Achievement of Pupils Who Were and Were Not Introduced to a Foreign Language in Elementary School." *Modern Language Journal* 40: 120-23; March 1956.
26. KEARNEY, NOLAN C., and ROCCHIO, PATRICK D. "The Relation Between the Minnesota Teacher Attitude Inventory and Subject Matter Taught by Elementary Teachers." *Educational Administration and Supervision* 41: 358-60; October 1955.
27. KIRCH, MAX S. "At What Age Elementary School Language Teaching?" *Modern Language Journal* 40: 399-400; November 1956.
28. LAZARUS, ARNOLD L. "Pupils' T.V. Habits." *Educational Leadership* 13: 241-42; January 1956.
29. LEONELLI, RENATO E. "The Selection and Grade Placement of Physical Science Principles in the Elementary School Curriculum." *Science Education* 39: 54-57; February 1955.

30. MALLINSON, GEORGE G., and BUCK, JACQUELINE V. "Some Implications and Practical Applications of Recent Research in Science Education." *School Science and Mathematics* 56: 357-69; May 1956.
31. MALLINSON, JACQUELINE BUCK, and OTHERS. "Review of Recent Research in the Teaching of Science at the Elementary School Level I." *Science Education* 39: 336-43; December 1955.
32. MANN, HORACE. "How Real Are Friendships of Gifted and Typical Children in a Program of Partial Segregation?" *Exceptional Children* 23: 199-201; February 1957.
33. MILDENBERGER, KENNETH W. *Status of Foreign Language Study in American Elementary Schools, 1955.* Washington, D. C.: U. S. Department of Health, Education, and Welfare, Office of Education, Committee on Foreign Language Teaching, February 1956. 34 p.
34. MILGRAM, HARRY. "Implications of Research in Elementary School Science Education." *School Science and Mathematics* 57: 600-604; November 1957.
35. MILLER, VERA V. "The Superior Child Enterprise." *American School Board Journal* 134: 43-46; April 1957.
36. MOSER, HAROLD E. "Levels of Learning; Planning in Depth." *Arithmetic Teacher* 3: 221-25; December 1956.
37. NEWMAN, WILLIAM H. "A Full-Time Counselor in an Elementary School." *Elementary School Journal* 56: 354-57; April 1956.
38. NORRIS, DOROTHY E. "Programs in the Elementary Schools." *Education for the Gifted.* Fifty-Seventh Yearbook, Part II, National Society for the Study of Education. Chicago: University of Chicago Press, 1958. p. 222-62.
39. PARKER, CLYDE. "A Measured Experiment with Mentally Advanced Children." *American School Board Journal* 133: 23-24; December 1956.
40. RUDMAN, HERBERT C. "Patterns of Textbook Use; Key to Curriculum Development." *Elementary School Journal* 58: 401-406; April 1958.
41. SCHULTZ, RAYMOND E.; KROPP, R. P.; and CURTIS, H. A. "A Comparison of Half-Day and Regular Session Pupil Achievement in Elementary Schools." *Childhood Education* 34: 422b-422h; May 1958.
42. STODDARD, GEORGE D. "New Ways To Meet the Mind of the Child." *Education 2000 A. D.* (Edited by Clarence W. Hunnicutt.) Syracuse, N. Y.: Syracuse University Press, 1956. p. 141-64.
43. STUTEVILLE, GEORGE R. "Four Levels of Control Are New Criteria for Science Curriculum Construction." *School Science and Mathematics* 57: 705-13; December 1957.
44. THOMPSON, ELIZABETH E., and HAMALAINEN, ARTHUR E. *Foreign Language Teaching in Elementary Schools: An Examination of Current Practices.* Washington, D. C.: Association for Supervision and Curriculum Development, a department of the National Education Association, 1958. 46 p.
45. TYLER, RALPH W. "The Curriculum—Then and Now." *Elementary School Journal* 57: 364-74; April 1957.
46. WACHNER, CLARENCE W. "Changing the Language Arts Program in a Large City System." *Educational Leadership* 13: 356-61; March 1956.
47. WEST, ROLAND. "Merger of Social Studies and Science in Sixth Grade." *Elementary School Journal* 58: 445-48; May 1958.
48. WILLARD, RUTH A. "A Study of the Relationship Between the Valued-Behaviors of Selected Teachers and the Learning Experience Provided in Their Classrooms." *Journal of Educational Research* 49: 45-51; September 1955.
49. YOUNG, DORIS. "Identifying and Utilizing Children's Interests." *Educational Leadership* 13: 161-65; December 1955.

CHAPTER III

School Organization

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DURING recent years organization at the elementary-school level has continued to be an important research concern. Three principal areas have demanded most time and consideration, namely, increased specialization and extended services for early elementary education, whole school organization, and grouping for instruction.

The term *elementary education* as the working basis of this chapter denotes the continual and sequential learning experiences in the public schools from nursery school through grade 6. Within this program and as an integral part of it is the early elementary-education area which gives special attention to organized programs at the public nursery-school, kindergarten, and primary levels.

This chapter reports current research on the three major areas of concern noted above, together with research on related problems.

Enrollment and Districting in Elementary Education

The number of pupils in elementary schools continued to increase. In 1957 (44) 1,824,000 were enrolled in kindergarten and 27,248,000 in grades 1 through 8. This was an increase of 3.8 percent in kindergarten and 4.1 percent in grades 1 through 8, or a total increase of 4.1 percent over the previous year. From 1952 through 1957, kindergarten enrollment increased 32 percent; and enrollment in grades 1 through 8, 24 percent.

At the same time, the number of school districts continued to decrease through reorganization. Dawson (12) reported that in 1932 there were 127,350 districts. By 1948 this number had decreased to 100,496, and by 1955, to 59,270. Of the last figure, 8674 were not operating schools as separate districts. Dawson also reported that one-room schools continued to decrease in number through the consolidation of school districts. In 1932, there were 180,000 one-room schools, but this number had decreased to 39,061 by 1955.

Most elementary districts were operated as separate units. Dawson and Ellena's study (13) indicated that of the 66,472 districts in the nation slightly over one-fifth (15,244) were operated in 1953 as combined elementary and secondary units. Over three-fifths of the districts (40,472) operated elementary schools only.

Types and Sizes of Elementary Schools and Their Classes

During the last 30 years the elementary school has tended more and more to end with grade 6. A 1958 survey (28) reported that in 1928, 26 percent of all elementary schools were organized on the k-6 plan; in 1948,

34 percent; and in 1958, 51 percent. Also, in 1958, 27 percent of the schools were organized by grades 1 through 6. Therefore, 78 percent of the elementary schools ended with grade 6.

Research showed interest in the primary school (either kindergarten through grade 3 or grade 1 through grade 3). In 1958 (28) 2 percent of the schools were so organized. Cattell (8) reported that 73 percent of 70 elementary-school principals of Westchester County, New York, favored the k-6 organization over the k-3.

The size of the elementary school changed little in the last decade (28). In 1928 the average size of the school with a supervising principal was 632; in 1948 it was 520; in 1958 it was 536, close to the average 10 years previously.

Data showing how the size of an elementary school affects development of children were not available.

Class size has changed little during the past decade. A nationwide survey (34) showed that in districts of 500,000 and more population, the average kindergarten class comprised 31.7 pupils in 1949, and 32.3 in 1953; in elementary grades it was 36.3 in 1949, and 35.8 in 1953. In middle-size districts 30,000 to 100,000 in population, class sizes were: kindergarten in 1949, 27.3 and in 1953, 28.5; elementary in 1949, 30.0 and in 1953, 30.3. It is significant that the smaller the district, the smaller the class. The survey reported that in 1953, in districts 500,000 or more in population, the average elementary class consisted of 35.8 pupils; in districts 30,000 to 100,000 in population, 30.0; and in districts 5000 to 10,000 in population, 27.8. The same trend held in the kindergarten. In 1957 (29) the average class size for all urban districts was 30.1 pupils; the trend to smaller classes in smaller districts continued. Data from rural county units (46) substantiated the same conclusion; the average pupil load reported was 21.

The influence of class size on pupil achievement has been the subject of much opinion but little research. According to Vandiver (47) "research does not reveal how the size of class enrollment affects the emotional, social, and physical development of children." Research studies have measured pupil achievement in the basic skills in classes of various sizes. Spitzer (41) reported on a study in the Iowa schools designed to determine the effect of class size on achievement of pupils in grades 3 and 6 in reading comprehension, study skills, language skills, and arithmetic. Objective measurement indicated that class size is not a factor in achievement.

Status of Early Elementary Education

Efforts to increase provisions for public education of young children have been increasingly evident in recent legislation covering expanded services, entrance ages, certification of teachers for early elementary education, and financing from the general school fund.

A nationwide study of the status of early elementary education was made by Steiner (42). Analysis revealed that nearly all states had some form of legislation authorizing provision for education below grade 1. Forty-six states provided for kindergartens, 40 through permissive legislation and six through mandatory legislation; 17 of these states also provided nursery schools through permissive legislation. The survey stated that authorized entrance ages (birthday to birthday) for nursery school and kindergarten ranged from two to nine years, inclusive of various combinations. Twelve states provided kindergarten education for children four to six years of age. Ten states provided a maximum age limit for nursery-school and kindergarten attendance but stated no minimum age. Ten states set a minimum age for nursery school and kindergarten but did not state a maximum. Age ranges set by other states included two to six, three to six, and three to nine years for nursery school; and three to six, four to nine, four and three-fourths to six, five to six, five to seven, and five to eight years for kindergarten.

The National Education Association, Research Division and the American Association of School Administrators (32), reported that 37.6 percent of the schools surveyed admitted children to kindergarten at four years and nine months, 23 percent admitted at four years and eight months, and the remaining systems admitted from five years and eight months down to four years of age. The majority admitted children at four years and eight or nine months of age. The survey showed that most school systems admitted children to grade 1 at five years and eight or nine months of age: 27.3 percent set the entrance age at five years and nine months, and 23.1 percent at five years and eight months. Admission age for the other systems ranged between five years and three months to six years and eight months. Some systems had no set minimum age for grade 1 but required kindergarten attendance for admission (a minimum age having been set for the kindergarten). A few systems reported two entrance age requirements for grade 1, depending on whether or not the child had attended kindergarten. Thirty-one of the 532 systems reported a change in entrance policy either under way or under consideration; in most instances an increase in age requirement was indicated.

Forester (15) reported placement of entries to kindergarten and grade 1 according to the child's readiness as determined by observation and testing. Psychologists' screening of bright children for early entry to grade 1 was used to advantage in the Pittsburgh and Brookline school systems (5, 10).

Carter (9) reported in his study of the effect of early school entrance on scholastic achievement that 87 percent of underage children did not match the scholastic achievement of normal-age children. Studies of evaluation of early school entrance by Forester (15), Kazienko (20), and King (21) reported less satisfactory progress for underage than for older beginners. However, Birch (5) and Cone (10) found positive gains in their studies of early admission of bright children.

Several reports dealt with the values and benefits of nursery-school and kindergarten education. Allen and Masling (1) found that positive effects of nursery-school training were evidenced by grade-2 pupils. Wilson (49) and Brown (6) reported that the summer-school kindergarten, even though short, proved worthwhile.

Finance plans for early education varied. Steiner (42) found that 17 states financed through the general school fund (Maryland and South Dakota financed both nursery-school and kindergarten education through this source, whereas Michigan financed only nursery schools). Local funds were used in four states, but the revenue was maintained as a special school fund. Some states, using local financing, combined local-school funds and fees from parents, and others combined local-school funds and state aid (which in some instances included private funds). Two states, Illinois and Oregon, obtained funds for nursery schools through private fees and contributions.

Certification requirements (42) for teachers in early elementary education had been raised in most states along with provision for increased specialized training in the total early elementary program (covering nursery-school, kindergarten, and primary education). Thirteen states continued to issue a special kindergarten certificate; four, a certificate covering nursery school and kindergarten; eight, a certificate covering nursery-school, kindergarten, and primary education; and seven, a general certificate with specialization in early education. Thirteen states required only the elementary certificate for teaching in nursery school and kindergarten.

Reorganization Trends

Organization continued to be a major interest. The ungraded plan or unit received increased interest and evidenced expansion; the multigrade plan proved successful in its beginnings; and the dual-progress plan appeared. Opposition in basic philosophy of the dual-progress plan to the ungraded and multigrade plans and the self-contained classroom plan emphasized concern and need for further research.

The ungraded plan, based on the premise that learning should be continuous, groupings flexible, and grade lines and failure minimized, continued to show positive results. Goodlad and Anderson, in a nationwide survey (16), reported definite expansion of the ungraded plan and its introduction into 12 new school systems within the last three years. Slater (40) in 1955, and Goodlad and Anderson (16) in 1958, showed the extent of the ungraded plan with regard to location, types of organization, introduction, values, and community acceptance. Buford (7) reported study of the ungraded plan in the inservice program of Charlottesville, Virginia, and its later establishment in the school system. Variations in organization were reported. Some plans placed emphasis on continuous learning adapted to developmental growth (3, 4); others related developmental growth to academic or reading levels as the core emphasis (17).

The psychological and mental health aspects and values of the plan were evaluated by Anderson (2) and Emlaw (14).

The multigrade plan, similar to the ungraded in many respects but different in that it involves interage and intergrade grouping over a three-year age span and grade span, proved successful though less extensive. Rehwoldt (38) evaluated its use in the Torrance Unified School District of California. Interage and intergrade classes of primary and of intermediate levels were established. Scientific studies of learning in reading, arithmetic, language, personal adjustment, social achievement, behavior characteristics, and attitudes toward school in the multigrade classes were made. Additional factors, such as parental attitudes toward the multigrade classes, teacher and administrator opinions of the classes, and pupil-pupil relationships within multigrade classes, were also evaluated. Data justified the conclusion that children in multigrade classes generally made greater gains, improvement, and progress than children in single classes. Continued use of this plan reaffirmed early justification (18).

Stoddard (43) reported experimentation with the dual-progress plan in 1958. This plan, differing basically from plans now used at the elementary level, is being studied in grades 3 and 4 in Long Beach and Ossining, New York, in co-operation with New York University as a Ford Foundation Study. This plan divides the pupil's day into a half-day graded and a half-day nongraded segment of instruction. The graded segment is spent under a homeroom teacher who guides registration and counseling, and teaches reading and social studies. The nongraded segment of the day is assigned to special teachers who teach each subject or cluster of subjects on a longitudinal basis. The study, which will continue for three years, appears to contain elements common to the secondary core program and elementary departmentalization.

A national study (30) revealed that the elementary-school teacher, however, continued to be assigned primarily to one classroom, teaching all subjects. In 1957, 59.9 percent of the elementary-school teachers were assigned to a single grade and were teaching all subjects, and 37.2 percent were assigned to a combination grade where they taught all subjects. Only 2.9 percent had one or more subjects in two or more grades.

Grouping

Nationwide interest in the education of the gifted has renewed interest in and examination of grouping practices within classrooms. Current studies and research may be divided into those concerned with ability and those concerned with psychological and sociological factors.

Oakley Union School, Oakley, California, reported use of a plan to individualize instruction by placing each child in a group where he could achieve with satisfaction, obviating an excessive number of ability groupings (39). Raab (37) reported effective use of heterogeneous grouping. Lawson (22) reported historical and philosophical research on homo-

geneous grouping with a recommendation for present-day reconsideration of this grouping plan.

Dade County, Florida, evaluated a plan of grouping gifted children in special classes for part of the day and in regular classes for the rest of the day (11). The gifted children showed better academic achievement than regular pupils. Peer ratings were not affected, but the gifted children stated that they felt more secure in the special classes.

The California State Department of Education (27) has initiated a three-year study of the state's public-school education programs for the gifted.

Mann (26) analyzed the acceptance and rejection patterns of elementary-school children in the Colfax School, Pittsburgh, where partial grouping has long been the practice. Acceptance and rejection seemed stronger within an ability grouping than across groups; grouping did not cause adverse effects on the personal or social behavior of gifted children.

Promotion

Annual promotion has now become the definitely accepted policy throughout the nation. A nationwide survey (33) reported that fewer than 4 percent of the school districts questioned promoted semiannually. Luther and Adell (25) surveyed the 98 largest cities and found that within the last nine years the trend has been toward annual promotion. The nationwide survey (33) further reported that promotions from the ungraded primary levels to grade 4 were on the basis of academic achievement (especially in reading) and social maturity. Promotion rates showed no definite pattern though more retentions were evident for grade 1 than for grades 2 and 3. The National Education Association, Research Division, study (31) showed that the number of schools holding to either 100-percent promotion or a rigid standard of promotion was small; a trend away from rigid academic promotion practices to a more flexible standard policy was evident. Lennon and Mitchell (23) reported a study in age-grade relationships which verified this trend in promotions, the variability of ages within a grade level having been reduced 40 percent between 1918 and 1952.

The School Year and Day

Increase in enrollments has revived interest in the all-year school. Most of the writings have been opinions, including lay opinion. The issues seem to group themselves into three possibilities (19): using the school plant during the summer to enrich the program; carrying on the program throughout the year; and organizing the school on a four-quarter basis, each pupil to attend three quarters.

The outstanding research study on the all-year school was conducted by Los Angeles City School District in 1954 (24). A committee of educators analyzed the advantages and disadvantages of the four-quarter system. It

was concluded that for Los Angeles the all-year school was too costly, had too much public resistance, had too many administrative problems, and would benefit only 5.3 percent of the pupils in the elementary schools.

An opinion poll (36), conducted in 1955, asked superintendents if they would favor an all-year school program in which one-fourth of the pupils would be on vacation all of the time. Seventy-two percent of the superintendents were opposed. In a nationwide sampling of superintendents' opinions in 1958 (35), 65 percent favored extending the traditional nine-month school term; 33 percent, mostly from rural districts, favored maintaining it; and 2 percent had no opinion. The suggested number of days to be added varied from 5 to 100; the largest group (56 percent) favored adding 20 days, and the next largest group (28 percent) favored adding 10 days.

Increasing the length of the school day was favored by 38 percent of the superintendents and opposed by 60 percent; 2 percent had no opinion. The suggested lengths of increase varied from one-half to 2 hours, the largest group (43 percent) favoring one hour. Twenty-five percent favored one-half hour; and 19 percent, 45 minutes. The superintendents were overwhelmingly against Saturday classes; 97 percent were opposed, 2 percent in favor, and 1 percent had no opinion.

Half-day sessions continued in districts where school facilities had not kept up with enrollments. In a nationwide study of urban school districts in 1957-58 (29) it was found that 8 percent were using half-day sessions. This represented 2.4 percent of all pupils. The half-day session was more widely used in the Far West (21.9 percent of the districts), and less used in the Middle States (3.4 percent) and the Southwest (4.5 percent). In the largest districts, those above 500,000 in population, 44.4 percent had double sessions.

Federal, State, and Local Control

Since education is primarily a state and local function in the United States, elementary schools must be organized according to whatever controls exist at the state and the local levels.

There has been compulsory school attendance in every state since 1918. According to the U. S. Office of Education (45) 32 states required attendance between ages seven and 16. Legislation during the last three decades indicated a trend toward lowering the minimum and raising the maximum compulsory attendance ages. Thirty-three states required a minimum of nine years' attendance.

According to Steiner (42), recent legislation enables state departments of education to assume a greater leadership role in curriculum development and in supervision of instruction at the early elementary-education level. In 32 states statutory provisions make this possible. No studies indicated the extent to which curriculums have been influenced by federal and state offices.

Certification of teachers is a means of control exercised by the states (42). According to Woellner and Wood (50) every state has some certification requirements. Von Schlichten (48), in a study of fifth-year requirements for certification, found increasing advocacy of five years' preparation for both elementary- and secondary-school teachers.

Needed Research

Organization of the elementary school for instruction should continue to be a major concern. Continued study of organizational aspects that lend themselves readily to measurement, such as academic achievement, class size, and school size, is merited; but a review of the research emphasizes that study should be directed toward the emotional and social effects of organizational problems. Few data reveal the emotional and social results of ungraded and multigrade plans, intraclass grouping plans, and the effect of peer relationships in grouping, class size, and school size. It is in these directions that studies are needed.

Bibliography

1. ALLEN, GREGORY B., and MASLING, JOSEPH M. "An Evaluation of the Effects of Nursery School Training on Children in the Kindergarten, First and Second Grades." *Journal of Educational Research* 51: 285-96; December 1957.
2. ANDERSON, ROBERT H. "Ungraded Primary Classes: An Administrative Contribution to Mental Health." *Understanding the Child* 24: 66-72; June 1955.
3. ANDERSON, ROBERT H. "The Ungraded Primary School as a Contribution to Improved School Practices." *Frontiers of Elementary Education.* (Edited by Vincent J. Glennon.) Syracuse, N. Y.: Syracuse University Press, 1955. p. 28-39.
4. ASSOCIATION FOR CHILDHOOD EDUCATION INTERNATIONAL. "Schools Can Change Grouping Practices." *Grouping . . . Problems and Satisfactions.* Washington, D. C.: the Association, 1954. p. 14-18.
5. BIRCH, JACK W. "Early School Admission for Mentally Advanced Children." *Exceptional Children* 21: 84-87; December 1954.
6. BROWN, ROBERT S. "Summer-Time Kindergarten." *School Executive* 77: 77-79; May 1958.
7. BUFORD, FLORENCE. "We Looked at Our Schools." *National Elementary Principal* 34: 20-22; December 1954.
8. CATTELL, JAMES P. "A Survey of Principals' Evaluations: Relative Merits of K-3 and K-6 Organization." *American School Board Journal* 135: 31-32; December 1957.
9. CARTER, LOWELL B. "The Effect of Early School Entrance on the Scholastic Achievement of Elementary School Children in the Austin Public Schools." *Journal of Educational Research* 50: 91-103; October 1956.
10. CONE, HERBERT R. "Brookline Admits Them Early." *Nation's Schools* 55: 46-47; March 1955.
11. DADE COUNTY PUBLIC SCHOOLS. *Schools Give the Time: Laboratory Doors Opened for Brighter Pupils.* Miami, Fla.: Dade County Public Schools, 1958.
12. DAWSON, HOWARD A. "A Current Look at School District Reorganization in the United States." *Teachers College Journal* 29: 82-86; May 1958.
13. DAWSON, HOWARD A., and ELLENA, WILLIAM J. *The Status of Schools, School Districts, and School District Reorganization.* Washington, D. C.: Department of Rural Education, National Education Association, March 15, 1954. 6 p.
14. EMLAW, RITA. "Organizing Schools for the Future." *Educational Leadership* 14: 288-92; February 1957.
15. FORESTER, JOHN J. "At What Age Should a Child Start School?" *School Executive* 74: 80-81; March 1955.

16. GOODLAD, JOHN I., and ANDERSON, ROBERT H. "The Nongraded Elementary School." *NEA Journal* 47: 642-43; December 1958.
17. GOODLAD, JOHN I., and OTHERS. "'Reading Levels' Replace Grades in the Nongraded Plan." *Elementary School Journal* 57: 253-56; February 1957.
18. HAMILTON, WARREN W., and REHWOLDT, WALTER. "By Their Differences They Learn." *National Elementary Principal* 37: 27-29; December 1957.
19. HULL, J. DAN, and WRIGHT, GRACE S. *The All-Year School: A Bibliography.* Circular 470. Washington, D. C.: U. S. Department of Health, Education, and Welfare, Office of Education, March 1956. 11 p.
20. KAZIENKO, LOUIS W. "Beginner Grade Influence on School Progress." *Educational Administration and Supervision* 40: 219-28; April 1954.
21. KING, INEZ B. "Effect of Entrance Age into Grade One upon Achievement in Elementary School." *Elementary School Journal* 53: 331-36; February 1955.
22. LAWSON, DOUGLAS E. "An Analysis of Historic and Philosophic Considerations for Homogeneous Grouping." *Educational Administration and Supervision* 43: 257-79; May 1957.
23. LENNON, ROGER T., and MITCHELL, BLYTHE C. "Trends in Age-Grade Relationship: A 35-Year Review." *School and Society* 82: 123-25; October 15, 1955.
24. LOS ANGELES CITY SCHOOLS. *The All-Year School.* Los Angeles: Board of Education, July 1954. 81 p.
25. LUTHER, GERTRUDE H., and ADELL, JAMES C. *A Survey of Current Practices in Large Cities of the United States Relating to Annual and Semi-annual Promotion, Age of School Entry into Kindergarten and First Grade, and Promotional Policies.* Bulletin No. 52. Cleveland: Cleveland Public Schools, Bureau of Educational Research, October 14, 1953. 30 p.
26. MANN, HORACE. "How Real Are Friendships of Gifted and Typical Children in a Program of Partial Segregation?" *Exceptional Children* 23: 199-201; February 1957.
27. MARTINSON, RUTH A. "A Study of Public School Education Programs for the Gifted." *California Schools* 29: 69-70; February 1958.
28. NATIONAL EDUCATION ASSOCIATION, DEPARTMENT OF ELEMENTARY SCHOOL PRINCIPALS. "1958 Survey: Organization of Elementary Schools." *National Elementary Principal* 38: 55-58; September 1958.
29. NATIONAL EDUCATION ASSOCIATION, RESEARCH DIVISION. *Class Size in Elementary Schools of Urban School Districts, 1957-58.* Special Memo. Washington, D. C.: the Association, April 1958. 19 p.
30. NATIONAL EDUCATION ASSOCIATION, RESEARCH DIVISION. "The Status of the American Public-School Teacher." *Research Bulletin* 35: 5-63; February 1957.
31. NATIONAL EDUCATION ASSOCIATION, RESEARCH DIVISION. "Ten Criticisms of Public Education." *Research Bulletin* 35: 131-75; December 1957.
32. NATIONAL EDUCATION ASSOCIATION, RESEARCH DIVISION AND AMERICAN ASSOCIATION OF SCHOOL ADMINISTRATORS. *Admission Policies for Kindergarten and First Grade.* Educational Research Service Circular No. 3, 1958. Washington, D. C.: the Association, 1958. 49 p.
33. NATIONAL EDUCATION ASSOCIATION, RESEARCH DIVISION AND AMERICAN ASSOCIATION OF SCHOOL ADMINISTRATORS. *Pupil Promotion Policies and Rates of Promotion.* Educational Research Service Circular No. 5, 1958. Washington, D. C.: the Association, 1958. 55 p.
34. NATIONAL EDUCATION ASSOCIATION, RESEARCH DIVISION AND AMERICAN ASSOCIATION OF SCHOOL ADMINISTRATORS. *Size of Class in 241 Urban School Districts 30,000 to 100,000 in Population, 1953-54.* Educational Research Service Circular No. 5, 1954. Washington, D. C.: the Association, May 1954. 19 p.
35. NATION'S SCHOOLS. "Lengthening the School Year." *Nation's Schools* 62: 6; December 1958.
36. NATION'S SCHOOLS. "Opinion Poll." *Nation's Schools* 55: 6; May 1955.
37. RAAB, GEORGE E. "The Class Group: Social Setting for Learning." *Elementary School Journal* 59: 150-53; December 1958.
38. REHWOLDT, WALTER H. *An Analysis of Some of the Effects of Interage and Intergrade Grouping in an Elementary School.* Doctor's thesis. Los Angeles: University of Southern California, January 1957. 372 p.
39. RINSET, G. S. "Providing for the Individual Pupil Through Grouping Procedures." *Elementary School Journal* 57: 150-52; December 1956.

40. SLATER, EVA MAY. *The Primary Unit.* Curriculum Bulletin No. 3. Storrs: University of Connecticut, School of Education, 1955. 33 p.
41. SPITZER, HERBERT F. "Class Size and Pupil Advancement in Elementary Schools." *Elementary School Journal* 54: 82-86; October 1954.
42. STEINER, ARCH K. "A Report on State Laws: Early Elementary Education." *School Life* 39: 7-10; May 1957.
43. STODDARD, GEORGE D. "The Dual Progress Plan." *School and Society* 86: 351-52; October 11, 1958.
44. U. S. DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS. *School Enrollment: October 1957.* Current Population Reports, Population Characteristics, Series P-20, No. 80. Washington, D. C.: the Bureau, February 13, 1958. 11 p.
45. U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, OFFICE OF EDUCATION. *Compulsory Education Requirements.* Circular 440. Washington, D. C.: Superintendent of Documents, Government Printing Office, March 1955. 17 p.
46. U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, OFFICE OF EDUCATION. *Statistics of Public School Systems in 101 of the Most Rural Counties, 1955-56.* Circular 529. Washington, D. C.: Superintendent of Documents, Government Printing Office, 1958. 23 p.
47. VANDIVER, WILLIS. *Class Enrollment and School Size, What Research and Opinion Say.* Education Brief No. 35. Washington, D. C.: U. S. Department of Health, Education, and Welfare, Office of Education, June 1957. 7 p.
48. VON SCHLICHTEN, ERWIN W. "The Idea and Practice of Teacher Certification in the United States." *Teachers College Record* 59: 411-26; April 1958. 60: 41-53; October 1958.
49. WILSON, ROBERT E. "The Summer Kindergarten." *American School Board Journal* 134: 29-30; June 1957.
50. WOELLNER, ROBERT C., and WOOD, M. AURILLA. *Requirements for Certification of Teachers, Counselors, Librarians, and Administrators for Elementary Schools, Secondary Schools, and Junior Colleges, 1957-58 to 1958-59.* 23rd edition. Chicago: University of Chicago Press, 1957-58. 131 p.

CHAPTER IV

Evaluation of the Educational Program

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THE LITERATURE on evaluation of the educational program in early and middle childhood evidenced general agreement on, and refinement of, definitions of the purposes and nature of evaluation, an increased emphasis on the importance of comprehensive evaluation of the general school program, and further attention to system-wide studies and action-research studies involving teaching personnel. The trend toward considering measurement as subsidiary to more inclusive concepts of evaluation, as noted by Shane and McSwain in their report of this topic for the REVIEW OF EDUCATIONAL RESEARCH in 1953 (71), has continued. Many reports were surveys, compilations, or personal reactions. Precise details regarding the conditions under which some studies were conducted were at times lacking, and comparisons of findings among studies were difficult. Studies which seemed to provide testable theoretical "constructs" or usable evidence were selected for this review.

The Theory-Practice of the Evaluative Process

Bloom (12) defined *evaluation* as making judgments about the value of concepts, methods, or materials for some particular purpose; evaluation involves the use of criteria and standards to determine the degree to which specific factors achieve accuracy, effectiveness, economy, or satisfactions. He noted that evaluative judgments can be either quantitative or qualitative and that criteria can be self-determined or provided by others. Boykin (14) reviewed the development of the contemporary concept of evaluation with a view toward more precise definition. He carefully described 12 characteristics of effective evaluation, pointing out that evaluation is not merely a testing program or a synonym for measurement or an administrative device for assessing teaching or instruction; rather, it is a comprehensive, co-operatively developed, continuous process of study to be defined and interpreted in terms of its functions and purposes. Other writers (31, 36, 40, 47, 60, 61) were in general agreement that *evaluation* can be defined as (a) a process, global in scope, concerned with determining the value of behavior changes that education seeks to accomplish; and (b) a technique for collecting multiple evidences to indicate the value of a process, the extent of progress toward stated goals, and the use of evidence to influence future action.

The literature on values and their relation to education was manifold and reflected a long-time history of study (71). Phenix (59) analyzed the sources of value for education, discussed the aims of education and the directions sought, and suggested criteria for preferences among aims.

Smith, Stanley, and Shores (73) treated the development of appraisal experiments, suggested criteria for their assessment, and indicated the values of studies that dealt with broad patterns of evaluation rather than with isolated problems. Shane (69) considered the place of the teacher's personal value system, its function in the teaching-learning process, and the place of educational values in the selection of subject matter. Shaftel (68) discussed implications from the social sciences for evaluation, and the need to assess the culture patterns, the social organization existing among those who worked at common tasks, innovations, and the role of the innovator. Taba (74) stressed the need for, and gave examples of, new techniques to assess socioeconomic and cultural backgrounds, attitudes, feelings, and meanings.

Dahlke (23) provided a comprehensive and careful examination of the contemporary school in terms of a general frame of reference, namely, values and actions, their institutional expression, and the consequent social relations. One major purpose of his analysis was to examine different types of value orientations and the resultant types of schools rather than to propose a value system. Dahlke gave consideration to (a) an examination of those groups that constituted the school matrix, their value orientations and the values they support, the interrelations among their various value systems, and the relations of these factors to the organization and function of the school; (b) the school as an institutional group and the concomitant social factors; (c) the informal organization and the system of evaluation that structures relations among children and teachers; and (d) the school as a center of value controversy, the place of pressure groups, and the mandate of the law.

The relation of evaluation considered as a process of placing a value on educational experience to the improvement of instruction was carefully analyzed by Dressel and Mayhew (27). They discussed the broader implications of evaluation with regard to peer reactions, paper-and-pencil tests, inventories, scales and check lists, and audio-visual aids. Their application of evaluative techniques to instruction included suggested guidelines for the individualization of instruction, the self-motivation of pupils, and evidence of progress. Dressel (26) in a comprehensive report discussed the gap between evaluation theory and its application to the improvement of instruction. He considered the relation of learning principles to evaluation, and emphasized that instruments of evaluation for teacher use should treat broad objectives of instruction rather than measure specifics, to the end that evaluation becomes an integral part of instruction. Dressel critically examined the problem of using standardized measuring instruments in relation to different objectives and proposed in this connection the deemphasis of national and regional norms. In general, he held that evaluation procedures should be concerned with the learning for which they provided indexes, and that less emphasis should be placed on the reliability of measures and more on the permanency of learning, and less emphasis on validity and more on the relevancy of learning.

Appraisal of the General School Program

State departments of education, universities, individuals, and study groups produced a variety of evaluation instruments. Many illustrated some degree of "face validity"; however, in some instances there was a lack of evidence that criterion data had been sharply defined, that validation of the instruments for the situations and groups for which they were designed had been accomplished, or that data obtained by use of the instruments had been subjected to factorial or other quantified analyses. Shane and McSwain (72) presented a comprehensive annotated list of such instruments and indicated possible uses of them. Several general guides (17, 33, 58) which could serve as a basis for the development of appraisal instruments included criteria for the evaluation of elementary schools, and indicated, as well, possible areas of self-evaluation. The Colorado State Department of Education (20) developed a question-form check list which treated four areas—the school district, the school plant, school personnel, and the curriculum. A group of graduate students at Boston University (13) designed an instrument to be used by teachers to evaluate a single elementary school or a group of elementary schools in a system. Items for appraisal included philosophy and objectives, curriculum, library sources, plant, staff, and administration. Shane (70) developed an instrument for use by outside consultants. The New Mexico State Department of Education (55) produced an evaluation handbook for elementary schools. Areas covered included philosophy and objectives, general operational practices, primary learning activities, middle- and upper-grade learning activities, school plant and equipment, and staff evaluation. A University of Nebraska workshop in education compiled a similar evaluative instrument (54).

Several professional journals devoted all or portions of issues to the topic of evaluation (4, 5), and included materials on evaluation theory, current practices, sources for decision making as to evaluation of the instructional program, methods of appraisal, and ways of improving school-community understanding of evaluation programs. Kropp (45) pointed out the importance of evaluation to appraise the school program and the opportunity provided by comprehensive evaluation to give school staffs a thorough understanding of the over-all school program. Hughes (43) described the place of evaluation in the action of school boards, the areas of possible appraisal, and techniques to accomplish evaluation. New York State Educational Conference Board (56) reported a study which sought to describe different kinds of public elementary schools, the extent to which they achieved educational objectives, and the relation of such elementary programs to costs.

Attention was given to the aspects of evaluation related to procedures of reporting to parents, testing, grading, and promotion. Dobbin (25) presented a practical summary of the ways in which information about tests and test results could be provided for parents and suggested ways of

training parents to interpret measurement information better. Kropp (46) suggested ways to improve the observational techniques of parents. A survey conducted in California cities (38) described (a) current practices on reporting to parents, (b) the extent of existing variation, and (c) trends in reporting procedures. Jones (44) examined evaluation systems in relation to problems of grading, marking, promotion, and reporting to parents. He indicated some of the problems created by the increased number of evaluative indexes currently obtained on the behavior of elementary-school children. Articles in the Thirty-Sixth Yearbook of the Department of Elementary School Principals (53) examined such topics as the principal's role in the evaluation of pupil progress, reporting to parents, and parent evaluation of the instructional program. Other studies presented research on evaluation instruments designed to examine parents' attitudes and reported positive results (48, 67, 84). A study (41) on grade placement and relative success in elementary subjects indicated a need for careful evaluation of present systems of grade placement as related to achievement. Ferguson (29), in a study of two types of kindergarten attendance programs, reported that, in general, the type of attendance program did not affect the general development of children.

The "critical incident technique" developed by Flanagan (30) as a result of studies in the Aviation Psychology Program of the U.S. Army Air Force in World War II has proved useful in establishing criteria and developing instruments. Research workers (21, 35) have outlined uses for this technique in instructional evaluation. Corbally (21) reported the technique useful in studies of limited complexity and listed advantages and disadvantages. Mayhew (49) indicated that the technique provided empirically derived behavior classifications usable either for subsequent measurement or as the bases for the construction of evaluation instruments.

Action Research

Action-research procedures maintained their place in school instruction and evaluation programs. In 1953, Wann (81) summarized the developments in this field and suggested additional experimental study of the technique. Corman (22) summarized the strengths and weaknesses of action methodology. He pointed out that effective problem solving necessitates training and skill in research methods and in use of research instruments. Fleming (31) indicated the trend toward research for school improvement and emphasized the value of teacher participation in research activities. The 1957 Yearbook of the Association for Supervision and Curriculum Development (6) was devoted to major problems in developing and implementing research in school situations. The theoretical and historical setting for curriculum research, the research process, the selection of research personnel, and the conduct of research in the school setting were dealt with.

Hansen (37) described ways in which teachers might collect and use evidence for solving instructional problems, and Herrick (39) reported

various approaches to the improvement of instruction and noted the virtues and shortcomings of action-research procedures. Buswell (16) gave attention to ways in which research can help teachers and teachers can utilize their classroom problems as a basis for study. Barnes (7) considered methods by which teachers were involved in policy making and curriculum planning, and described how a group of teachers produced handbooks for parents and elementary texts. Beckman (11) reported an action-research study involving 24 student teachers. The values of the activity as reported by students, and the problems of inexperience and the specific training required for this type of research were analyzed.

School systems continued to experiment with action-research procedures. Taba, Noel, and Marsh (75) reported a California county's use of outside consultants in developing voluntary working groups of teachers, and reported generally improved practices as a result. A study by Alexander, Marsh, and Noel (1) utilized the services of an outside consultant and reported principles of operation generalizable for other school systems. Carter, Harden, and Nesbitt (18) described a study which involved several school systems in Michigan, showed how they organized their area-wide research around a general topic, and reported a number of values which resulted from the project.

A review of action-research studies would not be complete without including follow-up activities of the Horace Mann-Lincoln Institute of School Experimentation, the work of which has been previously reported in the literature (22, 81). Institute research workers have continued to stress studies which take a comprehensive approach to evaluation and which have been directed toward the development and evaluation of various patterns of action affecting the learning of pupils and teachers (42). One of the purposes of the program has been to test and demonstrate the effectiveness of action research in many and varied school situations as well as to contribute to the development of theoretical "constructs." Staff members have produced, or have under way, a number of studies dealing with more comprehensive and precise attacks upon evaluation problems, with the role of adults in learning, and with the social forces affecting the quality of education in schools (42). In co-operation with the Association for Supervision and Curriculum Development and other organizations, the Institute has conducted training laboratories to help curriculum workers develop the skills necessary to conduct co-operative research and to plan and execute inservice programs (50).

Evaluation of Teaching Competency

Investigations of the relationships between various hypothesized predictors and teaching competency were extensive, but, in spite of the many studies purporting to determine concomitants of teacher competency, little usable evidence has been set forth. Unquestionably the worker in this area has been confronted by numerous vexing problems (10, 63, 66);

however, recent studies have been characterized by the use of new approaches and more sophisticated designs and techniques. An over-all review of investigations dealing with the identification and prediction of teaching effectiveness was that of Morsh and Wilder (52). These writers summarized the quantitative studies appearing between 1900 and 1952, dissected them, categorized the methodologies employed, synthesized the findings, and noted perplexing problems. Competent reviews dealing with the measurement and prediction of teacher efficiency appeared in the REVIEW OF EDUCATIONAL RESEARCH at intervals of three years from 1940 to 1958 (3). Research workers should find both these surveys (3, 52) of value. Annotated bibliographies on this topic were provided by Castetter, Standlee, and Fattu (19), and Watters (82). Reviews were presented by Tomlinson (77, 78). Mitzel and Gross (51) dealt critically with the development and use of the student-change criterion of teacher effectiveness.

One comprehensive and definitive long-term study of note, soon to be published, was the Teacher Characteristics Study, sponsored by the American Council on Education, progress reports on which have been submitted by Ryans (63, 64, 65, 66). Over a six-year period approximately 100 separate research projects were carried out; over 6000 teachers in 1700 schools and about 450 school systems participated in various phases of the research. The investigations involved (a) extensive classroom observations (by trained observers) of teachers with the purpose of discovering significant patterns of teacher behavior; (b) the development of instruments (paper-and-pencil tests and inventories) for the identification of individuals characterized by different levels of specified patterns of classroom behavior, attitudes and educational points of view, verbal intelligence, and emotional stability; and (c) comparison of defined groups of teachers (e.g., elementary-school teachers and secondary-school teachers, married teachers and unmarried teachers, and others) from the standpoint of their observable characteristics.

Basically, the Teacher Characteristics Study had three major purposes: (a) to analyze and describe patterns of teacher classroom behavior and the manifestations of certain value systems and cognitive and emotional traits of teachers, (b) to isolate and combine into scales the significant correlates of some major dimensions of teacher behavior, and (c) to compare teachers (in terms of the teacher characteristics described by the study) when they had been classified according to a number of conditions.

Pursuance of these objectives involved (a) development of techniques for the reliable assessment of classroom behavior, (b) determination (largely through factor analysis) of some major patterns of teacher behavior, (c) development of instruments made up of materials hypothetically related to teacher classroom behavior dimensions and other personal and social characteristics of teachers, (d) the empirical derivation of scoring keys for such instruments in the light of response-criterion correlations, and (e) comparison of defined groups of teachers.

Contributions of Textbooks

Many of the major contributions on evaluation were those of textbook writers, and recognition of the importance of adequate evaluation procedures was widespread (2, 28, 60). The uneven translation of theory into practice in field studies contrasted with the generally complete textbook coverage. Some recent texts which have given comprehensive coverage to evaluation and related techniques of measurement follow.

Barr, Davis, and Johnson (9) described the planning of field research studies and appraisal, and outlined the kinds of research that could be conducted by field workers in school situations as a basis for action. The defining of educational objectives, the description and appraisal of status, and the interrelationships among the techniques of evaluation were treated. Baron and Bernard (8) presented materials to help teachers use tests effectively in a planned program of evaluation covering a variety of topics including teacher-made tests, programs of evaluation, and the interpretation of measurement results. Bradfield and Moredock (15) reviewed the theory-practice of evaluation, with emphasis on fundamental concepts and procedures, and described in detail the uses for measurement and evaluation in the content fields. Furst (32) took the position that objectives served as bases for developing both learning and evaluation procedures, and examined in detail what to evaluate, behavior definitions, and the specific procedures useful in constructing appropriate tests.

Shane and McSwain (72) considered evaluation as a process involving both professional and nonprofessional personnel and described ways of designing evaluation studies for local school systems. Their comprehensive content included (a) discussion of the dimensions of evaluation in the elementary school, (b) a comprehensive approach to determining educational values and to evaluating curriculums, (c) attention to specific procedures for evaluating the subject fields and special services in elementary education, and (d) annotated bibliographies of various types of evaluative instruments.

Torgerson and Adams (79) emphasized the role of the classroom teacher in evaluation and measurement, and presented ways of studying the individual, methods for the improvement of instruction, and approaches to planning an evaluation program. Travers (80) analyzed the nature of evaluation, described procedures in planning evaluation studies, and provided extensive treatment of a variety of evaluative instruments and techniques. Wrightstone, Justman, and Robbins (83) presented a careful description of the nature of comprehensive evaluation techniques, detailing a number of evaluation procedures and methods applicable to appraising the objectives of contemporary education, and treated the administrative aspects of an evaluation program.

The specific techniques used in the construction of achievement tests, descriptions of nontest tools, and techniques in achievement measurement were presented by several authors (34, 57, 76), and reflected a trend to-

ward providing inservice teachers with usable technical data on various types of measuring instruments, procedures of test construction, and practical statistical methods. All these textbooks contained extensive bibliographies, samples of standardized tests and teacher-made tests, concrete proposals for specific evaluation studies, and concise treatments of measurement techniques and devices. The reader desiring to explore the field of evaluation could well start with a study of the materials in these and comparable texts.

Conclusions

Although the review of literature did not reveal a wealth of studies illustrating the widespread impact of evaluation theory upon instruction, there was agreement on the theory, purposes, and techniques to be employed, and production of numerous evaluation instruments and devices. Any so-called lag in the transfer of evaluation theory to school practice might be attributed to the cultural and technical problems associated with the application of new or unique findings as well as to the relatively recent and rapid advances in evaluation emphasis. Davis (24) earlier treated aspects of this general problem in his thorough and provocative analysis of needed applications of research findings accumulated during World War II. The problem is not confined to education; it has counterparts in other fields of endeavor where there is concern, also, with the application of theory to practice.

An assessment of problems in evaluation, as reflected by the views of writers and by gaps in published research, would seem to reveal the need for (a) extended training of inservice personnel in appropriate research methods; (b) emphasis on the development of those kinds of studies which provide models and hypotheses useful and testable in school situations and which meet criteria for research as well (26, 62); (c) continued study of teacher behavior and teaching competency, utilizing the evidence contributed by definitive studies; and (d) more effective examination of the problems inherent in pupil evaluation of the instructional program, ways of reporting to parents, grading, and promotion.

Bibliography

1. ALEXANDER, WILLIAM M.; MARSH, JACK; and NOEL, ELIZABETH G. "A County Staff Experiments with Action Research for Curriculum Improvement." *Educational Leadership* 12: 367-71; March 1955.
2. AMERICAN ASSOCIATION OF SCHOOL ADMINISTRATORS. *American School Curriculum.* Thirty-First Yearbook. Washington, D. C.: the Association, a department of the National Education Association, February 1953. p. 310-41.
3. AMERICAN EDUCATIONAL RESEARCH ASSOCIATION. "Teacher Personnel." *Review of Educational Research* 10: 182-84; June 1940. 13: 218-23; June 1943. 16: 203-208; June 1946. 19: 185-90; June 1949. 22: 169-74; June 1952. 25: 261-70; June 1955. 28: 256-64; June 1958.
4. ASSOCIATION FOR CHILDHOOD EDUCATION INTERNATIONAL. *Childhood Education* 30: 205-52; January 1954.
5. ASSOCIATION FOR SUPERVISION AND CURRICULUM DEVELOPMENT. *Educational Leadership* 13: 397-460; April 1956. 15: 205-68; January 1958.

6. ASSOCIATION FOR SUPERVISION AND CURRICULUM DEVELOPMENT. *Research for Curriculum Improvement.* 1957 Yearbook. Washington, D. C.: the Association, a department of the National Education Association, 1957. 350 p.
7. BARNES, MARCILLENE. "Curriculum Materials in the Making." *Educational Leadership* 11: 471-75; May 1954.
8. BARON, DENIS, and BERNARD, HAROLD W. *Evaluation Techniques for Classroom Teachers.* New York: McGraw-Hill Book Co., 1958. 297 p.
9. BARR, ARVIL S.; DAVIS, ROBERT A.; and JOHNSON, PALMER O. *Educational Research and Appraisal.* Chicago: J. B. Lippincott Co., 1953. 362 p.
10. BARR, ARVIL S., and OTHERS. "Second Report of the Committee on Criteria of Teacher Effectiveness." *Journal of Educational Research* 46: 641-58; May 1953.
11. BECKMAN, DAROLD R. "Student Teachers Learn by Action Research." *Journal of Teacher Education* 8: 369-75; December 1957.
12. BLOOM, BENJAMIN S., editor. *Taxonomy of Educational Objectives.* New York: Longmans, Green and Co., 1956. 207 p.
13. BOSTON UNIVERSITY, SCHOOL OF EDUCATION. *Elementary Evaluative Criteria.* Boston: the University, 1953. 109 p.
14. BOYKIN, LEANDER L. "What Is Evaluation?" *Journal of Educational Research* 51: 529-34; March 1958.
15. BRADFIELD, JAMES M., and MOREDOCK, H. STEWART. *Measurement and Evaluation in Education.* New York: Macmillan Co., 1957. 509 p.
16. BUSWELL, GUY T. "Classroom Teachers Can Use Research." *NEA Journal* 42: 355-57; September 1953.
17. CALIFORNIA STATE DEPARTMENT OF EDUCATION. *Evaluating the Elementary School.* Bulletin, Vol. 37, No. 8. Sacramento, Calif.: the Department, August 1958. 70 p.
18. CARTER, PAUL; HARDEN, MARY; and NESBITT, DANIEL. "The Classroom Teacher and Action Research." *Educational Leadership* 11: 465-70; May 1954.
19. CASTETTER, D. DEE; STANDLEE, LLOYD S.; and FATTU, NICHOLAS A. *Teacher Effectiveness: An Annotated Bibliography.* Bulletin of the Institute of Educational Research, Vol. 1, No. 1. Bloomington: Indiana University, School of Education, 1954. 105 p.
20. COLORADO STATE DEPARTMENT OF EDUCATION. *Self-Evaluation of Elementary Schools in Colorado.* Denver: the Department, 1956. 71 p.
21. CORBALLY, JOHN E., JR. "The Critical Incident Technique and Educational Research." *Educational Research Bulletin* 35: 57-62; March 14, 1956.
22. CORMAN, BERNARD R. "Action Research: A Teaching or a Research Method?" *Review of Educational Research* 27: 544-47; December 1957.
23. DAHLKE, H. OTTO. *Values in Culture and Classroom.* New York: Harper and Brothers, 1958. 572 p.
24. DAVIS, FREDERICK B. *Utilizing Human Talent.* Washington, D. C.: American Council on Education, 1947. 85 p.
25. DOBBIN, JOHN E. "What Parents Need To Know About Tests and Testing." *Guidance For Today's Children.* Thirty-Third Yearbook. Washington, D. C.: Department of Elementary School Principals, National Education Association, September 1954. p. 152-60.
26. DRESSEL, PAUL L. "Evaluation as Instruction." *Invitational Conference on Testing Problems.* Princeton, N. J.: Educational Testing Service, October 31, 1953. p. 23-34.
27. DRESSEL, PAUL L., and MAYHEW, LEWIS B. "Evaluation as an Aid to Instruction." *Accent on Teaching.* (Edited by Sidney J. French.) New York: Harper and Brothers, 1954. p. 297-320.
28. DRUMMOND, HAROLD D. "Improving Instruction in Elementary Education." *School Executive* 75: 75-77; April 1956.
29. FERGUSON, EVA D. "An Evaluation of Two Types of Kindergarten Attendance Programs." *Journal of Educational Psychology* 48: 287-301; May 1957.
30. FLANAGAN, JOHN C. "The Critical Incident Technique." *Psychological Bulletin* 51: 327-58; July 1954.
31. FLEMING, ROBERT S. "Research and Evaluation in Curriculum Planning." *Review of Educational Research* 27: 295-303; June 1957.

32. FURST, EDWARD J. *Constructing Evaluation Instruments.* New York: Longmans, Green and Co., 1958. 334 p.
33. GEORGE PEABODY COLLEGE FOR TEACHERS, TEACHER EDUCATION WORKSHOP. *Is Yours an Excellent School?* Nashville, Tenn.: the College, Division of Surveys and Field Services, March 1948. 48 p.
34. GERBERICH, J. RAYMOND. *Specimen Objective Test Items.* New York: Longmans, Green and Co., 1956. 436 p.
35. GOOD, CARTER V. "Research in the Improvement of Instruction." *The Good Education of Youth.* Forty-Fourth Annual Schoolmen's Week Proceedings. Philadelphia: University of Pennsylvania Press, 1957. p. 111-20.
36. GRAVER, PALMER A. "Procedural Levels in Evaluating Educational Curricula." *Journal of Educational Research* 49: 143-47; October 1955.
37. HANSEN, ALICE F. "How the Teacher Collects and Uses Evidence." *Educational Leadership* 13: 430-34; April 1956.
38. HEFFERNAN, HELEN W., and MARSHALL, LORENE E. "Reporting Pupil Progress in California Cities." *California Journal of Elementary Education* 24: 67-77; November 1955.
39. HERRICK, VIRGIL E. "Approaches to Helping Teachers Improve Their Instructional Practices." *School Review* 62: 527-34; December 1954.
40. HERRICK, VIRGIL E. "The Evaluation of Change in Programs of Inservice Education." *Inservice Education for Teachers, Supervisors and Administrators.* Fifty-Sixth Yearbook, Part I, National Society for the Study of Education. Chicago: University of Chicago Press, 1957. p. 311-38.
41. HOLMES, JACK A., and FINLEY, CARMEN J. "Under- and Over-Age Grade-Placements and School Achievement." *Journal of Educational Psychology* 48: 447-56; November 1957.
42. HORACE MANN-LINCOLN INSTITUTE OF SCHOOL EXPERIMENTATION. *A Progress Report.* New York: Teachers College, Columbia University, June 30, 1958. 48 p.
43. HUGHES, DONALD H. "Five Basic Questions in Appraisal by School Boards." *American School Board Journal* 127: 35-37; September 1953.
44. JONES, JOHN A. "Grading, Marking, and Reporting in the Modern Elementary School." *Educational Forum* 19: 45-54; November 1954.
45. KROPP, RUSSELL P. "Evaluation Promotes Understanding of the Total School Program." *School Review* 63: 446-47; November 1955.
46. KROPP, RUSSELL P. "Need for Involving Parents in Evaluation." *Elementary School Journal* 57: 140-44; December 1956.
47. KRUG, EDWARD A. *Curriculum Planning.* New York: Harper and Brothers, 1957. p. 263-74.
48. LETON, DONALD A. "A Study of the Validity of Parent Attitude Measurement." *Child Development* 29: 515-20; December 1958.
49. MAYHEW, LEWIS B. "Critical Incident Technique in Educational Evaluation." *Journal of Educational Research* 49: 591-98; April 1956.
50. MILES, MATTHEW B., and COREY, STEPHEN M. "The First Cooperative Curriculum Research Institute." *Research for Curriculum Improvement.* 1957 Yearbook. Washington, D. C.: Association for Supervision and Curriculum Development, a department of the National Education Association, 1957. p. 305-48.
51. MITZEL, HAROLD E., and GROSS, CECILY F. *A Critical Review of the Development of Pupil Growth Criteria in Studies of Teacher Effectiveness.* New York: Office of Research and Evaluation, Division of Teacher Education, Board of Higher Education of the City of New York, 1956. 28 p.
52. MORSH, JOSEPH E., and WILDER, ELEANOR W. *Identifying the Effective Instructor: A Review of the Quantitative Studies, 1900-1952.* Chanute Air Force Base, Ill.: Training Aids Research Laboratory, Air Force Personnel and Training Research Center, October 1954. 151 p.
53. NATIONAL EDUCATION ASSOCIATION, DEPARTMENT OF ELEMENTARY SCHOOL PRINCIPALS. *Parents and the Schools.* Thirty-Sixth Yearbook. Washington, D. C.: the Department, September 1957. 310 p.
54. NEBRASKA STATE DEPARTMENT OF EDUCATION. *A Guide for Evaluating and Improving Nebraska Elementary Schools.* Lincoln: the Department, 1955. 90 p.
55. NEW MEXICO STATE DEPARTMENT OF EDUCATION. *Evaluation Handbook for Elementary Schools.* Sante Fe: the Department, 1956.

56. NEW YORK STATE EDUCATIONAL CONFERENCE BOARD. *What Do Good Schools Do for Children?* A Report of a Cooperative Study of Educational Programs in New York State Public Elementary Schools. Albany: the Board, 1954. 32 p.
57. NOLL, VICTOR H. *Introduction to Educational Measurement.* Boston: Houghton Mifflin Co., 1957. 437 p.
58. PENNSYLVANIA DEPARTMENT OF PUBLIC INSTRUCTION. *How Good Is Your Program?* Educational Leadership Series No. 1. Harrisburg: the Department, 1957. 12 p.
59. PHENIX, PHILIP H. *Philosophy of Education.* New York: Henry Holt and Co., 1958. p. 549-67.
60. RAGAN, WILLIAM B. *Modern Elementary Curriculum.* New York: Dryden Press, 1953. p. 476-539.
61. RIVLIN, HARRY N. "Changing Concepts of Evaluation." *Educational Forum* 20: 205-13; January 1956.
62. RUSSELL, DAVID H., and PARKER, CECIL J. "Using Research To Point the Way in Curriculum Change." *Educational Leadership* 12: 269-76; February 1955.
63. RYANS, DAVID G. "Notes on the Criterion Problem in Research with Special Reference to the Study of Teacher Characteristics." *Journal of Genetic Psychology* 91: 33-61; September 1957.
64. RYANS, DAVID G. "Notes on the Rating of Teacher Performance." *Journal of Educational Research* 47: 695-703; May 1954.
65. RYANS, DAVID G. "Some Validity Extension Data from Empirically Derived Predictors of Teacher Behavior." *Educational and Psychological Measurement* 18: 355-70; Summer 1958.
66. RYANS, DAVID G. "Theory Development and the Study of Teacher Behavior." *Journal of Educational Psychology* 47: 462-75; December 1956.
67. SCHAEFER, EARL S., and BELL, RICHARD Q. "Development of a Parental Attitude Research Instrument." *Child Development* 29: 339-61; September 1958.
68. SHAFTEL, FANNIE R. "Evaluation for Today and for the Future." *Educational Leadership* 14: 292-98; February 1957.
69. SHANE, HAROLD G. "Educational Values as Guides to Planning with Children." *Childhood Education* 31: 56-60; October 1954.
70. SHANE, HAROLD G. *An Evaluative Audit of the Elementary School Program.* Evanston, Ill.: Northwestern University, School of Education, 1958. 96 p.
71. SHANE, HAROLD G., and MCSWAIN, EDWARD T. "Evaluation of the Educational Program." *Review of Educational Research* 23: 171-80; April 1953.
72. SHANE, HAROLD G., and MCSWAIN, EDWARD T. *Evaluation and the Elementary Curriculum.* New York: Henry Holt and Co., 1958. 436 p.
73. SMITH, B. OTHANEL; STANLEY, WILLIAM O.; and SHORES, J. HARLAN. *Fundamentals of Curriculum Development.* Yonkers-on-Hudson, N. Y.: World Book Co., 1957. Chapter 16, "Experimental Appraisal of Curriculum Patterns," p. 388-421.
74. TABA, HILDA. "New Tools for New Needs." *Educational Leadership* 10: 433-37; April 1953.
75. TABA, HILDA; NOEL, ELIZABETH; and MARSH, JACK. "Action Research as a Technique of Supervision." *Educational Leadership* 12: 453-58; May 1955.
76. THOMAS, ROBERT M. *Judging Student Progress.* New York: Longmans, Green and Co., 1954. 421 p.
77. TOMLINSON, LOREN R. "Pioneer Studies in the Evaluation of Teaching." *Educational Research Bulletin* 34: 63-71; March 1955.
78. TOMLINSON, LOREN R. "Recent Studies in the Evaluation of Teaching." *Educational Research Bulletin* 34: 172-86, 196; October 1955.
79. TORGERSON, THEODORE L., and ADAMS, GEORGIA SACHS. *Measurement and Evaluation for the Elementary School Teacher.* New York: Dryden Press, 1954. 489 p.
80. TRAVERS, ROBERT M. W. *Educational Measurement.* New York: Macmillan Co., 1955. 420 p.
81. WANN, KENNETH D. "Action Research in Schools." *Review of Educational Research* 23: 337-45; October 1953.
82. WATTERS, WILLIAM A. "Annotated Bibliography of Publications Related to Teacher Evaluation." *Journal of Experimental Education* 22: 351-67; June 1954.

83. WRIGHTSTONE, J. WAYNE; JUSTMAN, JOSEPH; and ROBBINS, IRVING. *Evaluation in Modern Education.* New York: American Book Co., 1956. 481 p.
84. ZUCKERMAN, MARVIN. "Normative Data and Factor Analysis on the Parental Attitude Research Instrument." *Journal of Consulting Psychology* 22: 165-71; June 1958.

CHAPTER V

Materials of Instruction

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THE ENTIRE issue of the REVIEW OF EDUCATIONAL RESEARCH for April 1956 was devoted to reporting studies of instructional materials which had appeared during the previous 10 years. The present chapter, therefore, is limited to investigations reported during 1956, 1957, and 1958. Other reviews will be found in the June 1951 and June 1948 issues of the REVIEW.

The years 1956-58 were not fruitful ones for the reporting of research in instructional materials. As Thomas (61) stated, the opportunities for research in this area are so great that existing studies provide a minimum of help to teachers and administrators. He proposed better definition of research areas, more co-ordination of large-scale studies, and better designed and conducted investigations. Broderick (8) also discussed research in printed and audio-visual materials. Although not a research report, the Thirty-Fifth Yearbook of the NEA Department of Elementary School Principals, *Instructional Materials for Elementary Schools* (46) deserves mention. Included in it were numerous articles on materials in the several curriculum areas, audio-visual aids, the management of instructional materials, and related topics.

In 1952, the California Elementary School Administrators Association undertook to define the characteristics of the good elementary school, a state-wide project involving hundreds of educators and laymen over several years. Standards relating to supplies and equipment for the good elementary school were stated in Chapter 5 of the first monograph (9) to emerge from the study. One of the six committees of the Association was concerned with instructional supplies and equipment in each subject area and at each grade level. The committee first defined carefully the major objectives for each area and level, then specified the necessary learning activities and experiences to insure attainment of the objectives, and listed in detail the instructional materials required to facilitate the desired learning experiences. Five monographs (10, 11, 12, 13, 14) reported this work, and two more are promised.

One other California project deserves mention. Conner and Noel (19) reported a joint undertaking of the state curriculum commission and a producer of audio-visual materials to produce such materials to correlate with state textbooks in social studies.

The Research Division of the National Education Association (47) reported a questionnaire study of 502 elementary-school principals. Only 6 percent indicated that their supply of textbooks was inadequate, whereas one-fourth stated that films, filmstrips, slides, and free and inexpensive materials were less than adequate. About one-half considered their supply of records, tapes, radio and television programs, and graphic materials

and models inadequate. Obstacles to progress in this latter area were listed as lack of equipment, inadequate budget, and lack of teachers' know-how in the use of such aids.

Printed Materials

A few studies involving content, vocabularies, and readability of textbooks were reported during the period covered in this review.

Readability

Chall (18) rendered distinct service in reviewing the significant (and nonsignificant) research in the area of readability, including the surveys, experimental studies, and quantitative associational investigations made to date. She presented evidence on the reliability and validity of the various means of determining the difficulty of reading material and on the various applications of readability formulas within and without the field of education. Four factors most significantly related to difficulty of material have been found to be, in order of importance, vocabulary diversity and difficulty, sentence structure, idea density, and human interest. Chall's bibliography of 256 items is valuable. Chall (17) found users of the Dale-Chall formula among universities, the armed forces, individuals, industrial firms, book publishers, newspapers and magazines, university and public libraries, public school systems, and governmental agencies; she also found that the formula was used for analysis of manuscripts, research, and teaching, and as a guide to writing, editing, and rewriting, and for reference. Dale (20) published a discussion of the findings of several vocabulary studies and the values and dangers in using them. Dawkins (21) criticized the Dale-Chall formula and its use, but Dale and Chall, in an accompanying reply, cited evidence of its value. Johnson (32) presented data on the reading difficulty of three seventh-grade and three eighth-grade textbooks in arithmetic. Stone (59) stated that some of the words in Spache's list of 769 easy words are actually difficult for primary-school children and proposed his revision of this list. In a study of the basic preprimers, primers, and first readers of seven widely used series, Reeve (49) found a total of 633 different words, of which 109 were common to all seven series and 150 were common to six. Some 231 words appeared in only one or another of the seven series.

Social Studies and the Language Arts

Benbrook (7) formulated 18 criteria of material for retarded readers in intermediate grades, wrote a sample set of material, tried it out with pupils, and secured appraisal of the criteria and the sample by a jury of 100 teachers and children's librarians. Haslem (27) studied four recent social studies textbooks for grade 6. She found that from 16 to 40 percent of the printed material and from 31 to 66 percent of the pictures and diagrams

were concerned with geography. Douglass and Hanna (22) examined 65 books and 181 articles written by professional geographers for statements which described important relationships existing between man and his environment. More than 800 such relationships were found. McAulay (38) suggested best uses of elementary-school textbooks in social studies. Beaton (6) compiled a list of 155 textbooks used in Catholic elementary schools between 1850 and 1900 and found them deficient in application of Christian social principles.

Anderson (5) compared the moral and spiritual values that might be emphasized by a teacher using the *McGuffey Fifth Reader* and the corresponding books of two modern series. In the modern books he found greater emphasis on brotherhood, moral equality, and respect for human personality. Landau (36) reported considerable agreement between children and specialists in children's literature in choice of humorous books. Gunderson (26) gave, in classified form, the reactions of second-grade pupils of a university school to 14 books popular with seven-year-olds. Cappa (15) reported that the sources of appeal in books for 2500 kindergarten children were, in order of importance, illustrations, story content, informational content, humor, surprise, and "refrain" (repetition). Staiger (58) questioned teachers and administrators as to use of basal readers. Two-thirds used one series basally; one-third, two or more series co-basally; and 93 percent supplemented with other readers. Most of those who used a series with two-level editions were satisfied.

Nearly all schools made extensive use of teachers' guides, and 90 percent of those who used one basal series also used the corresponding workbooks. In a controlled experiment, Felton (25) concluded that workbooks have value in first-grade reading but are not a crucial factor in children's success. Scott and Wilson (55) concluded that the words in the *Modern-Life Speller*, for grades 2 to 6, are reasonably well selected, but that the total number of words is too great. They found that four achievement tests—the Metropolitan, Progressive, and two forms of the Stanford—are not valid tests to use with this speller, since too few of the test words appear in the speller. A bibliography of graduate studies completed or in progress in the language arts was compiled by Anderson and Staiger (4). One section listed studies in textbook analysis.

Arithmetic and Science

Experimental studies of the use of newer types of arithmetic materials were reported. Schott (53, 54) presented data on the achievement of experimental groups in grades 1 to 9 as compared with national norms. The experimental groups used learning materials devised by the author and were reported to surpass national norms by more than a year. Several materials useful in teaching primary arithmetic were described by Hertz (28). Teachers' favorable response to the use of one- to 10-centimeter long colored rods devised by Cuisenaire, was reported by Howard (30). Ander-

son (3) reported that experimental groups of eighth-grade pupils scored consistently higher, but not significantly so, than control groups in an experiment involving the use of 16 visual-tactual devices in a unit comprising areas, volumes, and the Pythagorean theorem. Fehr, McMeen, and Sobel (24) conducted an experiment with fifth-grade pupils in the use of the Monroe computing machine. The experimental groups made greater gains, and both pupils and teachers revealed heightened interest. Durr (23) experimented with the use of workbooks in a textbook-centered arithmetic program in grades 4 to 8. Pupils who were average or above in intelligence and in subject-matter achievement made significantly greater gains in arithmetic vocabulary and fundamental operations through use of workbooks, especially in grades 4 and 5. Two selected bibliographies of mathematics books for the elementary-school library have been suggested by Hess (29) and by Hutcheson, Mantor, and Holmberg (31).

Mallinson, Sturm, and Mallinson (41), applying the Flesch readability formula to recent science textbooks for grades 4 to 12, found great variation in difficulty and concluded that recent books do not seem easy. Mallinson (40) summarized recent research in elementary-school science education, and concluded that use of both textbooks and laboratory methods is useful, that textbooks are frequently too difficult and out of date, and that some contain topics well below the level of sophistication of pupils. In another survey, Mallinson (42) reported that reading experts were less accurate and consistent and teachers much less so in determining reading difficulty of books than in determining readability formulas. Kambly and Ahlers (33, 34) presented two annotated bibliographies of supplementary science books and indicated their approximate degree of difficulty.

Audio-Visual Materials

In 1958, the Educational Policies Commission (48) issued its statement on the role of mass communication in the United States and indicated some implications for pupils, teachers, and administrators. Sands (52) wrote comprehensively on audio-visual teaching procedures, and Wendt (63) attempted to interpret for teachers the findings of research. Allen (1, 2) discussed reviews and summaries of A-V research and later reviewed 27 studies involving pupil participation in relation to use of films. Moldstad (43) presented a comprehensive list of 459 doctoral dissertations in the A-V area completed in 59 institutions, all but 39 since 1936. Later, he listed 93 additional studies (44) completed in 1956 and 1957. Some involved media, materials, and the elementary school. Kumata (35) reviewed research studies dealing with the instructional uses of television, but few involved elementary-school children.

The television viewing habits and school achievement of 456 children in grades 6 and 7 were compared by Scott (56). He found that pupils who spent most time with television were significantly inferior in arithmetic, reading, and total achievement as well as in IQ. Witty (64, 65) and Witty

and Kinsella (66) questioned this conclusion since their studies have shown that television has varied and often opposite effects on different children. Witty continued to provide valuable reports on children's favorite television programs. McGrath (39) described the Pittsburgh experiment in teaching by TV in grade 5 and stated that tentative conclusions justified continuation and extension of the experiment. Strueve (60) also reported on the Pittsburgh project. A description and some tentative conclusions of the unfinished Hagerstown television experiment were given by Weiss (62).

Reid (50) and Romano (51) reported experiments on the effectiveness of films in extending children's vocabularies. Smith (57) used films with mental hygiene orientation in seeking to change attitudes and behavior of emotionally disturbed, socially maladjusted boys. She concluded that selected films, properly used, can effect such changes. Luser, Stanton, and Doyle (37) used phonograph records and individual pupil charts as phonics aids to help retarded readers in grades 3 and 4. Their experimental group showed significant gains in oral reading, paragraph meaning, and spelling. Moyer and Gilmer (45) found that three-, four-, and five-year-olds' preferences for blocks of certain sizes and shapes were unrelated to age.

Conclusion

The importance of instructional materials and the amount of money expended for them justifies further research into the nature, administration, and use of these materials. Such a program has not been developed. The reader is referred to the conclusions contained in each chapter of the April 1956 issue of the REVIEW.

Bibliography

1. ALLEN, WILLIAM H. "Audio-Visual Communication Research." *Journal of Educational Research* 49: 321-30; January 1956.
2. ALLEN, WILLIAM H. "Research on Film Use: Student Participation." *Audio-Visual Communication Review* 5: 423-50; Spring 1957.
3. ANDERSON, GEORGE R. "Visual-Tactual Devices and Their Efficacy: An Experiment in Grade Eight." *Arithmetic Teacher* 4: 196-203; November 1957.
4. ANDERSON, MARIAN A., and STAIGER, RALPH C. "Language Arts Research, 1956." *Elementary English* 34: 245-53; April 1957.
5. ANDERSON, PAUL S. "McGuffey vs. the Moderns in Character Training." *Phi Delta Kappan* 38: 53-58; November 1956.
6. BEATON, SISTER M. EILEEN GRACE. "Critical Analysis of Textbooks Used in Catholic Elementary Schools, 1850-1900." (Abstract) *Catholic Educational Review* 55: 552; November 1957.
7. BENBROOK, JOYCE. "Criteria for Writing Informative Material for Retarded Readers." *Elementary School Journal* 56: 409-12; May 1956.
8. BRODERICK, CATHERINE M. "Research in the Use and Purposes of Instructional Materials." *Educational Leadership* 13: 425-29; April 1956.
9. CALIFORNIA ELEMENTARY SCHOOL ADMINISTRATORS ASSOCIATION. *Characteristics of the Good Elementary School.* Monograph No. 1. San Francisco: the Association (693 Sutter Street), 1955. 50 p.
10. CALIFORNIA ELEMENTARY SCHOOL ADMINISTRATORS ASSOCIATION. *Instructional Supplies and Equipment for the Five- and Six-Year Olds of the Good Elementary School.* Monograph No. 3. San Francisco: the Association (693 Sutter Street), 1956. 80 p.

11. CALIFORNIA ELEMENTARY SCHOOL ADMINISTRATORS ASSOCIATION. *Instructional Supplies and Equipment for the Four- and Five-Year Olds of the Good Elementary School.* Monograph No. 2. San Francisco: the Association (693 Sutter Street), 1956. 72 p.
12. CALIFORNIA ELEMENTARY SCHOOL ADMINISTRATORS ASSOCIATION. *Instructional Supplies and Equipment for the Library of the Good Elementary School.* Monograph No. 8. San Francisco: the Association (693 Sutter Street), 1957. 36 p.
13. CALIFORNIA ELEMENTARY SCHOOL ADMINISTRATORS ASSOCIATION. *Instructional Supplies and Equipment for the Seven- and Eight-Year Olds of the Good Elementary School.* Monograph No. 5. San Francisco: the Association (693 Sutter Street), 1957. 78 p.
14. CALIFORNIA ELEMENTARY SCHOOL ADMINISTRATORS ASSOCIATION. *Instructional Supplies and Equipment for the Six- and Seven-Year Olds of the Good Elementary School.* Monograph No. 4. San Francisco: the Association (693 Sutter Street), 1958. 80 p.
15. CAPPA, DAN. "Sources of Appeal in Kindergarten Books." *Elementary English* 34: 259; April 1957.
16. CHALL, JEANNE S. *Readability: An Appraisal of Research and Application.* Monographs, No. 34. Columbus: Ohio State University, Bureau of Educational Research, 1958. 202 p.
17. CHALL, JEANNE S. "A Survey of Users of the Dale-Chall Formula." *Educational Research Bulletin* 35: 197-212; November 14, 1956.
18. CHALL, JEANNE S. "This Business of Readability: A Second Look." *Educational Research Bulletin* 35: 89-99; April 11, 1956.
19. CONNER, JAY D., and NOEL, FRANCIS W. "Audio-Visual Aids for Text Books on Mexico." *California Journal of Elementary Education* 24: 149-52; February 1956.
20. DALE, EDGAR. "The Problem of Vocabulary in Reading." *Educational Research Bulletin* 35: 113-23; May 9, 1956.
21. DAWKINS, JOHN. "Reconsideration of the Dale-Chall Formula." *Elementary English* 33: 515-20; December 1956.
22. DOUGLASS, MALCOLM P., and HANNA, P. R. "A Guide to Geographic Content in the Social Studies." *Education* 77: 11-17; September 1956.
23. DURR, WILLIAM K. "Use of Arithmetic Workbooks in Relation to Mental Abilities and Selected Achievement Levels." *Journal of Educational Research* 51: 561-71; April 1958.
24. FEHR, HOWARD F.; MCMEEN, GEORGE; and SOBEL, MAX. "Using Hand-Operated Computing Machines in Learning Arithmetic." *Arithmetic Teacher* 3: 145-50; October 1956.
25. FELTON, WILMA. "The Values of Workbooks in a First Grade Reading Program." *Elementary English* 34: 377-82; October 1957.
26. GUNDERSON, AGNES G. "What Seven-Year-Olds Like in Books." *Journal of Educational Research* 50: 509-20; March 1957.
27. HASLEM, ELEANOR H. "Geography in Social Studies Textbooks for Grade Six." *Journal of Geography* 54: 449-54; December 1955.
28. HERTZ, PAULINE. "Manipulative Devices in Lower Grades." *Arithmetic Teacher* 4: 214-16; November 1957.
29. HESS, ADRIEN L. "A Bibliography of Mathematics Books for Elementary School Libraries." *Arithmetic Teacher* 4: 15-20; February 1957.
30. HOWARD, CHARLES F. "British Teachers' Reactions to the Cuisenaire-Gattengo Materials: The Color-Rod Approach to Arithmetic." *Arithmetic Teacher* 4: 191-95; November 1957.
31. HUTCHESON, RUTH; MANTOR, EDNA; and HOLMBERG, MARJORIE. "The Elementary School Mathematics Library—A Selected Bibliography." *Arithmetic Teacher* 3: 8-16; February 1956.
32. JOHNSON, DONOVAN A. "Readability of Mathematics Books." *Mathematics Teacher* 50: 105-10; February 1957.
33. KAMBLY, PAUL E., and AHLERS, ELEANOR E. "The Elementary School Science Library for 1955-1956." *School Science and Mathematics* 57: 297-306; April 1957.
34. KAMBLY, PAUL E., and AHLERS, ELEANOR E. "The Elementary School Science Library for 1956-1957." *School Science and Mathematics* 58: 478-89; June 1958.
35. KUMATA, HIDEYA. *An Inventory of Instructional Television Research.* Ann Arbor, Mich.: Educational Television and Radio Center, 1956. 115 p.

36. LANDAU, ELLIOTT D. "The Children and the Experts Agree." *Elementary English* 34: 561-63; December 1957.
37. LUSER, CAROLYN; STANTON, EILEEN; and DOYLE, CHARLES I. "Effect of an Audio-Visual Phonics Aid in the Intermediate Grades." *Journal of Educational Psychology* 49: 28-30; February 1958.
38. MCAULAY, JOHN D. "Some Uses of Social Studies Textbooks." *Social Education* 21: 23-24; January 1957.
39. MCGRATH, JOHN. "Pittsburgh Fifth Graders Have Two Teachers per Classroom for TV Classes in Reading, Arithmetic and French." *Nation's Schools* 58: 35-40; July 1956.
40. MALLINSON, GEORGE G. "Survey of Research in Elementary School Science Education." *School Science and Mathematics* 57: 595-99; November 1957.
41. MALLINSON, GEORGE G.; STURM, HAROLD E.; and MALLINSON, LOIS M. "The Reading Difficulty of Some Recent Textbooks for Science." *School Science and Mathematics* 57: 364-66; May 1957.
42. MALLINSON, JACQUELINE B. "Survey of Recent Research in Elementary-School Science Education." *School Science and Mathematics* 58: 605-609; November 1958.
43. MOLDSTAD, JOHN. "Doctoral Dissertations in Audio-Visual Education." *Audio-Visual Communication Review* 4: 291-333; Fall 1956.
44. MOLDSTAD, JOHN. "Doctoral Dissertations in Audio-Visual Education: Supplement I." *Audio-Visual Communication Review* 6: 33-48; Winter 1958.
45. MOYER, KENNETH E., and GILMER, B. VON HALLER. "Experimental Study of Children's Preferences and Use of Blocks in Play." *Journal of Genetic Psychology* 89: 3-10; September 1956.
46. NATIONAL EDUCATION ASSOCIATION, DEPARTMENT OF ELEMENTARY SCHOOL PRINCIPALS. *Instructional Materials for Elementary Schools.* Thirty-Fifth Yearbook. Washington, D. C.: the Department, 1956. 310 p.
47. NATIONAL EDUCATION ASSOCIATION, RESEARCH DIVISION. "Improving Instruction Through an Adequate Materials Program." *Instructional Materials for Elementary Schools.* Thirty-Fifth Yearbook. Washington, D. C.: Department of Elementary School Principals, 1956. p. 10-16.
48. NATIONAL EDUCATION ASSOCIATION AND AMERICAN ASSOCIATION OF SCHOOL ADMINISTRATORS, EDUCATIONAL POLICIES COMMISSION. *Mass Communication and Education.* Washington, D. C.: the Commission, 1958. 138 p.
49. REEVE, OLIVE R. "Vocabulary of Seven Primary Reading Series." *Elementary English* 35: 237-39; April 1958.
50. REID, FLORENCE E. "Films Provide a Rich Source of Vocabulary Study." *Journal of Educational Research* 51: 617-21; April 1958.
51. ROMANO, LOUIS. "The Role of Sixteen Millimeter Motion Pictures and Projected Still Pictures in Science Unit Vocabulary Learning at Grades Five, Six, and Seven." *Journal of Experimental Education* 24: 49-58; September 1956.
52. SANDS, LESTER B. *Audio-Visual Procedures in Teaching.* New York: Ronald Press Co., 1956. 670 p.
53. SCHOTT, ANDREW F. "Adventure in Arithmetic." *Instructional Materials for Elementary Schools.* Thirty-Fifth Yearbook. Washington, D. C.: Department of Elementary School Principals, National Education Association, 1956. p. 86-90.
54. SCHOTT, ANDREW F. "New Tools, Methods for Their Use, and a New Curriculum in Arithmetic." *Arithmetic Teacher* 4: 204-209; November 1957.
55. SCOTT, HELEN E., and WILSON, GUY M. "A Critical Examination of Spelling Words in One Speller in Relation to Four Standardized Tests in Spelling." *Journal of Educational Research* 49: 331-43; January 1956.
56. SCOTT, LLOYD F. "Relationships Between Elementary School Children and Television." *Journal of Educational Research* 52: 134-37; December 1958.
57. SMITH, CAROL C. "Using Films in Group Guidance with Emotionally Disturbed Socially Maladjusted Boys." *Exceptional Children* 24: 205-209; January 1958.
58. STAIGER, RALPH C. "How Are Basal Readers Used?" *Elementary English* 35: 46-49; January 1958.
59. STONE, CLARENCE R. "Measuring Difficulty of Primary Reading Material: A Constructive Criticism of Spache's Measure." *Elementary School Journal* 57: 36-41; October 1956.

60. STRUEVE, HELEN K. "Arithmetic via Television: A Report of the Pittsburgh Experiment." *Arithmetic Teacher* 3: 162-64; October 1956.
61. THOMAS, R. MURRAY. "Research Dealing with Materials of Learning." *Phi Delta Kappan* 39: 268-70; March 1958.
62. WEISS, JOHN K. "Teaching by Television in Hagerstown." *School Review* 65: 466-73; December 1957.
63. WENDT, PAUL R. *Audio-Visual Instruction.* What Research Says to the Teacher, No. 14. Prepared by the American Educational Research Association in co-operation with the Department of Classroom Teachers. Washington, D. C.: National Education Association, December 1957. 32 p.
64. WITTY, PAUL A. "Children, TV and Reading." *Reading Teacher* 11: 11-16; October 1957.
65. WITTY, PAUL A. "Seventh Report on TV." *Elementary English* 33: 523-28; December 1956.
66. WITTY, PAUL A., and KINSELLA, PAUL. "Children and TV—A Ninth Report." *Elementary English* 35: 450-56; November 1958.

CHAPTER VI

Intellectual Processes

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THIS chapter summarizes the material on thinking which has appeared in the last six years, during which little significant research has been produced. As was noted in the previous REVIEW chapter (75), most of the research has been done at the college level, and its meaning for children is debatable. Only studies which have dealt directly with children or which have clear implications of significance for them have been included here. Partly because of the rapid recent development of concern in this area and partly in the hope that they may stimulate further research, some books and articles on theory have been included.

The Nature of the Thinking Process

The general character of thinking challenged research workers, and efforts were made to synthesize existing investigations as well as to probe the dynamics of thinking. Johnson (47) and Bartlett (8) presented excellent opportunities for up-to-date orientation and mental stimulation in thinking and its related aspects. Along with the nature, methods for analysis, and classification of thought, Johnson included pertinent discussions of judgment. Price (70) rejected reduction of thinking to words and images and argued for the power of concepts.

The outcome of part of the five-year program of the Cognition Project in the Laboratory of Social Relations at Harvard University was recorded by Bruner, Goodnow, and Austin (13). They described the nature of conceptualizing, and in reporting on a series of 20 experiments in concept attainment under a variety of conditions, integrated and evaluated theoretical issues in terms of the experiments reported. Russell (74) comprehensively studied children's thinking, discussing its backgrounds, materials, processes, and possible improvement. Galanter and Gerstenhaber (30) attempted to conceptualize the problem of the nature of thought from the S-R behavioral standpoint. Thurstone (86) reviewed hypotheses regarding creative talent and formulated suggestions helpful to research workers seeking ways to initiate exploratory and experimental studies.

Piaget's careful, systematic investigation of the child's mental processes made significant contributions, stressing differentiation more than integration in the maturing process. In an important and noteworthy book with Inhelder, Piaget (44) attempted to isolate and describe mental structures which characterize the reasoning of the child of 7 to 11 years, then differentiated these structures from those which characterize the reasoning of early adolescents. They also reported on the perceptual aspect and structuring of the spatial field by children (67). Piaget's conclusion that sen-

sorimotor substructure is essential in the development of conceptual expression (65) extended understanding of the origins of intelligence. Furthermore, Piaget defined intelligence in relation to adaptive processes, indicated that "grouping" operations according to definite structures made by individuals compose the act of intelligence, and explored specific factors relating to intellectual mechanisms (66).

Estes' investigation (25) did not support Piaget's theories about the development of stages or age levels in the acquisition of "mathematical and logical concepts."

Skinner (80) treated verbal behavior from the behaviorist standpoint, its many controlling variables, and its manipulation and production. He concluded that "thought is simply behavior—verbal or nonverbal, covert or overt."

Perception

Perception received much attention. The significance of this concept for education and psychology has increased tremendously. Perception may be defined as the awareness of objects or other data through the medium of the senses. Often research and practice have assumed that the presence of certain objects or other data insures the same awareness on the part of all who perceive. This can no longer be assumed, and the assumption may have been a source of error in much work that has been done.

Allport (2), Bartley (9), Beardslee and Wertheimer (10), Fireman (26), Hamlyn (37), Ittelson and Cantril (45), and Watson (92) developed principles and background in perception theory. In their findings on coping, Witkin and others (94) reported extensive research which has particular significance for thinking. Jackson (46) questioned the effect of intelligence on the performance of perceptual tasks in the study by Witkin and others. The reverse question, the effect of perception on intelligence, might equally well be raised. Prescott (69) presented a minimal list of factors that influence perception and behavior, derived from 16 years of child study.

Bahrick, Fitts, and Rankin (5) found a relationship between incentive and perceptual selectiveness toward that which was interpreted by the S as most relevant to the expected reward. Buswell (16) reported results to indicate that reading ability in highly intelligent pupils may be blocked by perceptual habits fixed in the elementary school before the attainment of sufficient competence in perceptual recognition of printed verbal symbols.

Krech and Calvin (51) related perceptual organization and cognition. They saw perceptual responses as proceeding through a hierarchical order of levels of organization, and the ease of such progress related to measures of intelligence. They asserted that this progress might be a basic individual difference. Their designation of the perceptual variable as culture-free and the intelligence variable as culture-laden is open to question.

Dennis (22) raised a question as to the culture-freedom of tasks. He gave the *Draw-a-Man Test* to groups of Near Eastern children. At age 5-6

he obtained results comparable to those with American children, but the median IQ seemed to decline with age. It is possible that the culturally conditioned low value placed on representative art, particularly of the human figure, produced a culturally induced change. Does increased differentiation depend on cultural values? Is success on the test affected by perception based on experienced representation rather than by intellectual differentiation in perception of the human figure?

A study of dreams and images (21) revealed that perception has three temporal phases: unconscious registration of percept, unconscious contact of the percept with a pre-existing memory schema, and emergence into consciousness of the percept.

Concept Development

Studies of concept formation produced results that should be helpful in educational planning. Levit (52), in an analytical and evaluative discussion involving many research studies, defended the "transactional" theory of concept formation. Much of what is known about the concept development of children of school age (6 to 15 or 16 years) was formulated by Vinacke (90). He defined concepts as cognitive organization systems which bring pertinent past experience to bear on a present object or situation. He gave some characteristics of concepts, such as their reference to all other concepts, their accuracy, completeness, and pertinence, and asserted that they combine the objective properties of the object with the subjective impressions of the individual. As a research problem, concept formation was seen to have certain sources of confusion such as studies centering on the language development of children, taking the "average-child" approach, and failure to recognize that a study of concepts actually involves several distinctly different problems. Some of these latter problems are (a) whether there is a conceptualizing ability, (b) what concepts are possessed at various ages, (c) what differences exist in conceptualizing in abstract concrete areas, and (d) in what different ways a child learns a particular concept.

Vinacke also gave some general principles of concept formation: (a) Increasing age is the most important single factor. (b) Progress is continuous and cumulative rather than occurring in distinct phases. (c) Earlier learning provides for later development. (d) Development goes from simple to complex, from diffuse to differentiated, from egocentric to more objective, from concrete to abstract, from variable to more stable, and from inconsistent to more consistent. He also found that concept formation involved processes which cannot be inferred from either mental age or vocabulary.

Strauss (84) considered a method for studying concept development, presented certain monetary concepts, and summarized points in the character of concept development. These include: (a) Children advance by

continuum, the stages of which are indicated by the level of response organization. (b) Behavior undergoes changes as the child moves from level to level. (c) The further development of one concept depends on the development of related concepts. (d) As understanding increases, many earlier notions are lost. (e) The errors children commit at each level are related to concepts characteristic to each level; i.e., error is systematic, not accidental or uniquely individual. (f) Since cognition and behavior are not separable, shifts in conceptualization are related to feeling, perceiving, willing, and valuing.

Navarra (62) recorded all behavior pertinent to concept development of his son from the age of about 3 to about 5. With comment and analysis are provided the raw data for further study. Baggaley (4) explored the relationship of concept formation to various cognitive variables.

Developmental trends in abstraction were studied by Sigel (79) in children 7, 9, and 11 years of age. He found the use of concept classification to increase steadily with age, thematic type grouping gradually yielding to conceptual grouping. Weinstein (93) reported consistent and developing patterns at succeeding grade levels with respect to concepts of the flag and national identity. Development moved through the sequence of awareness of (a) others, (b) self and specific other, and (c) self and generalized other. The development of racial awareness was studied by Stevenson and Stewart (83).

Russell (76) explored certain areas of concept development more fully with limited numbers of children. The study points up the gradualness with which concepts grow and become clear. Levy and Cuddy (53) demonstrated with fifth-grade children in matched groups and of average intelligence that normal achievers far surpassed underachievers in developing concepts. The authors raise the question of whether underachievers can be identified on entrance to school.

Relationship of Variables to Intellectual Development

Guilford (35) named productive thinking as an aspect of intelligence which has generally been overlooked in most theoretical conceptualizations of human intelligence. Most of the 40 intellectual factors chosen from the research literature have to do with thinking and should be useful for conceptualizing intelligence and in measurement.

Vinacke (91) summarized research findings in an attempt to discover general principles of intellectual changes with age. He found a fairly consistent progression from simple or easy to complex or difficult. Consistent with this, Baker, Sontag, and Nelson (6) found no specific areas of intellectual ability in children with accelerative changes in mental growth rate different from those in children with decelerative changes. In considering this change of mental growth rate, Honzik (38) found increased relationship between mental ability of parents and children who live together.

Interest was shown in seeking a significant difference in conceptualization and discrimination between normal and mentally defective children with the same mental age (39, 57, 68). Results indicated that differential learning takes longer with defective children, but otherwise there is little difference, and that is in verbal ability rather than in conceptualization.

Critical Thinking

Widespread experimentation in the components of problem solving and factors affecting problem solving was conducted, with attention centered on methodology, personality factors, and the guidance and measurement of problem solution. Van de Geer (89) explored psychological activity in problem solving, and assembled comments on introspective study of thought processes as represented by the Wurzburg school, Gestalt psychology applied to problem solving, the nature and operation of Einstellung, the phenomenological theory of problem solving, and the axiomatic approach. In a study which advanced significant implications for elementary-school teachers, Buswell and Kersh (17) found a variety of successful thinking patterns, inability of individuals to correct thinking when faced with failure in problem solutions, and inadequate generalizing ability on the part of most individuals. Burack (14) stated that no reliable methods for improving problem formulation are known and that the efficacy of known problem-solving methods seems to vary from questionable usefulness to reasonably certain usefulness.

In the area of arithmetic, Flournoy (28) found third-grade children using different kinds of thinking procedures in higher-decade addition. Children also saw three applications of the process of subtraction as different processes (32). Barratt (7) formulated operational definitions of three space factors on the basis of the analysis of problem-solving techniques employed by subjects.

Murphy (59) proceeded with a carefully planned longitudinal study of nursery children's abilities to cope with problems and indicated an expansive constellation of coping styles ranging from denial of reality to controlling of the adult situation. Galanter and Smith (31), from three experiments on the relationship between thought and trial-and-error learning, reported that in trial-and-error learning each response is independent of the sequence of preceding responses, whereas in thought the responses are determined by some sequence of preceding responses. Damrin (20) experimented with the measuring of group problem-solving skills with elementary-school children.

The inhibitory effect of mental set on successful problem solution received much attention (1, 43, 49, 54, 87, 88). Similarly, there was a trend toward examining rigidity in relation to problem-solving performance in individuals (18, 77, 82). Rokeach, McGovney, and Denny (72) found support for the validity of the formulation of the construct of dogmatism and its differentiation from rigidity. Grace and Armstrong (34) came to

the conclusion that it was most desirable to control stimulus characteristics in rigidity experiments since otherwise the responses interpreted as "rigid" by E may actually be the simplest and most adaptive. In a study involving intermediate-grade children Easley (24) found that rigidity was unrelated or slightly positively related to academic success, but that it interfered with problem solving and decision making. Taylor and McNemar (85) summarized material on concept formation, mental set and rigidity, and individual and group problem solving.

Gaier (29), Johnson (48), and Morton (58) gave thought to the needs of teachers in guiding problem solving and set forth ideas for consideration on knowledge, symbols and thought, and emotions as related to developing problem-solving abilities. Bingham (11) quoted examples of children's problem-solving attempts and analyzed their effectiveness.

Cross and Gaier (19) used a technique at the secondary level which could be adapted to the intermediate level for prediction of school achievement and for determining teachable elements of problem solving. Burke (15) developed a test of critical thinking for intermediate pupils which could be used to identify gifted children and to measure instructional work in the development of critical thinking ability. Ray (71) found that problem-solving experimentation was lacking in theory and also in the establishment of dimensionable independent variables. He indicated current needs for experimentation and synthesis of theory and practice in their application to problem solving.

Improvement in Thinking

The purpose of research in thinking is to provide a basis for improvement of the skill in individuals. There is a disturbing paucity of studies of such implementation. An example of this much needed research is an experiment carried on by Hyram (42) in the upper grades of an elementary school. He concluded that there was evidence that logical or critical thinking is increased by the knowledge of the principles of logic and that upper-grade children can be taught to think logically through the use of teaching procedures which emphasize the principles of logic as the "learning content." He drew certain educational implications from these conclusions: (a) Current teaching methods are inadequate as a means of developing critical thinking. (b) There is need for direct teaching of the techniques of logical thinking. (c) The curriculum content for the improvement of critical thinking must include the principles of logic as basic generalizations to be formulated by pupils. (d) Critical thinking needs to be considered a tool skill. (e) It cannot be inferred that the mere acquisition of factual data necessarily leads to increased reasoning ability. (f) Greater attention needs to be given to pupils' application of previously learned techniques of reasoning to the solving of problem situations. (g) More meaningful concepts of factual subject matter might be developed through teaching methods which stress the habit of pupil generalization and problem solving.

A summary of the research on the improvement of perceptual judgments was made by Gibson (33). She found that perceptual learning occurs under many conditions and discussed various factors which influenced this improvement, including practice, reinforcement, transfer, and retention.

A number of studies explored ways in which concepts could be more effectively developed. Nadelman (60) found that in adults concreteness and accessibility affected the concept-attainment process. Logically it might be assumed this would hold to at least as great a degree with children. With preschool children Dietze (23) studied the effect of the use of various types of names on concept formation. Hovland and Weiss (40) reported on the effect of the positive and negative in the learning of concepts. The effects of symbols, shift, and manipulation were explored by Davidon (21); and those of three other variables, by Nass (61).

Kindergarten children were found to gain concepts from films which were shown with no adult guidance, analysis, or direction (64). At the fourth-grade level Howell (41) found that planned intensive teaching of work-study skills with follow-up use produced a gain in abilities and an internalizing of concepts so that they could be applied in a different situation.

The completeness of feedback significantly affected concept identification in the research of Bourne and Pendleton (12). They also found that there was an inverse linear relationship between the number of errors and the probability of feedback. The amount of irrelevant information increased the difficulty of the task proportionately. In studying the effects of certain emotional experiences on concept formation, Romanow (73) found that high-anxiety and low-involvement groups did more poorly than the lower-anxiety or higher-involvement groups, where interfering tendencies were strong.

For the improvement of thinking, reasoning, problem-solving invention, composition, or creative activities, Mead (56) presented a number of procedures. Among these were using the principle of readiness, letting pupils suggest or find answers, and insisting that ideas be defined at the pupil level. Smith (81) suggested taking up some of the things people do when they think critically and helping them do these more effectively. The procedures given are based on his unpublished research. Maltzman and others (55) found that eliciting uncommon responses tended to further increase uncommon responses and thereby facilitated problem solving. Anderson (3) added substantial evidence to the hypothesis that children become more skillful in problem solving in quantitative situations if meanings, understandings, relations, and generalizations are developed in the teaching of arithmetic. Gunderson's study (36) with second-grade children indicated that extended experience with the concrete or semiconcrete leads to improvement in problem solving. Two studies at the preschool level (50, 78) showed that inference could be obtained at the three- and four-year

level and that generalization was increased by verbal training. Neal (63) evaluated techniques for developing methods of scientific inquiry from grade 1 to grade 6.

Needed Directions for Further Research

There is need for further research dealing with children at all levels. The findings from studies with adults in perception and concept development might well be organized so that their implications for the development of children's thinking could be tested. It seems particularly important that in the studies with children the research design be built around situations in which the goals and purposes of children are used.

Since the development of further concepts seems to be built on concepts already achieved, ways in which concepts can be more effectively and efficiently developed become of crucial importance. Action research might contribute much to such study.

Bibliography

1. ADAMSON, ROBERT E. "Functional Fixedness as Related to Problem Solving: A Repetition of Three Experiments." *Journal of Experimental Psychology* 44: 288-91; October 1952.
2. ALLPORT, FLOYD. *Theories of Perception and the Concept of Structure.* New York: John Wiley and Sons, 1955. 709 p.
3. ANDERSON, G. LESTER. "Quantitative Thinking." *Research in the Three R's.* (Edited by Clarence W. Hunnicutt and William J. Iverson.) New York: Harper and Brothers, 1958. p. 362-64.
4. BAGGALEY, ANDREW R. "Concept Formation and Its Relation to Cognitive Variables." *Journal of General Psychology* 52: 297-306; Second Half, 1955.
5. BAHRICK, HARRY P.; FITTS, PAUL M.; and RANKIN, ROBERT E. "Effect of Incentives upon Reactions to Peripheral Stimuli." *Journal of Experimental Psychology* 44: 400-406; December 1952.
6. BAKER, CHARLES T.; SONTAG, LESTER W.; and NELSON, VIRGINIA L. "Specific Ability in I.Q. Change." *Journal of Consulting Psychology* 19: 307-10; August 1955.
7. BARRATT, ERNEST S. "An Analysis of Verbal Reports of Solving Special Problems as an Aid in Defining Spatial Factors." *Journal of Psychology* 36: 17-25; July 1953.
8. BARTLETT, FREDERIC C. *Thinking: An Experimental and Social Study.* New York: Basic Books, 1958. 203 p.
9. BARTLEY, SAMUEL H. *Principles of Perception.* New York: Harper and Brothers, 1958. 482 p.
10. BEARDSLEE, DAVID C., and WERTHEIMER, MICHAEL. *Readings in Perception.* Princeton, N. J.: D. Van Nostrand Co., 1958. 751 p.
11. BINGHAM, ALMA. *Improving Children's Facility in Problem Solving.* Practical Suggestions for Teaching, No. 16. New York: Teachers College, Columbia University, 1958. 86 p.
12. BOURNE, LYLE E., JR., and PENDLETON, R. BRIAN. "Concept Identification as a Function of Completeness and Probability of Information Feedback." *Journal of Experimental Psychology* 56: 413-20; November 1958.
13. BRUNER, JEROME S.; GOODNOW, JACQUELINE J.; and AUSTIN, GEORGE A. *A Study of Thinking.* New York: John Wiley and Sons, 1956. 330 p.
14. BURACK, BENJAMIN. "Methodological Aspects of Problem Solving." *Progressive Education* 30: 134-38; March 1953.
15. BURKE, JAMES M. *The Development of a Test of Critical Thinking for Pupils in Grades Five and Six.* Doctor's thesis. Hartford: University of Connecticut, 1958. 200 p. Abstract: *Dissertation Abstracts* 19: 1025-26; No. 5, November 1958.

16. BUSWELL, GUY T. "The Relationship Between Perceptual and Intellectual Processes in Reading." *California Journal of Educational Research* 8: 99-103; May 1957.
17. BUSWELL, GUY T., and KERSH, B. Y. *Patterns of Thinking in Solving Problems.* University of California Publications in Education, Vol. 12, No. 2. Berkeley: University of California Press, 1956. p. 63-148.
18. COWEN, EMORY L.; WIENER, MORTON; and HESS, JUDITH. "Generalization of Problem-Solving Rigidity." *Journal of Consulting Psychology* 17: 100-103; April 1953.
19. CROSS, K. PATRICIA, and GAIER, EUGENE L. "Technique in Problem-Solving as a Predictor of Educational Achievement." *Journal of Educational Psychology* 46: 193-206; April 1955.
20. DAMRIN, DORA E. "The Russell Sage Social Relations Test: A Measure of Group Problem-Solving Skills in Elementary School Children." *Invitational Conference on Testing Problems.* Princeton, N. J.: Educational Testing Service (20 Nassau Street), 1954. p. 75-84.
21. DAVIDON, ROBERT S. "The Effects of Symbols, Shift, and Manipulation upon the Number of Concepts Attained." *Journal of Experimental Psychology* 44: 70-79; August 1952.
22. DENNIS, WAYNE. "Performance of Near Eastern Children on the Draw-a-Man Test." *Child Development* 28: 427-30; December 1957.
23. DIETZE, DORIS. "The Facilitating Effect of Words on Discrimination and Generalization." *Journal of Experimental Psychology* 50: 255-60; October 1955.
24. EASLEY, CARLOS E. *A Study of the Relationship Between Mental Rigidity, Science Achievement, and Intelligence in Intermediate-Grade-School Children.* Doctor's thesis. Pullman, Wash.: State College of Washington, 1954. 124 p.
25. ESTES, BETSY W. "Some Mathematical and Logical Concepts in Children." *Journal of Genetic Psychology* 88: 219-22; June 1956.
26. FIREMAN, PETER. *Perceptualistic Theory of Knowledge.* New York: Philosophical Library (15 E. 40th Street), 1954. 50 p.
27. FISHER, CHARLES. "A Study of the Preliminary Stages of the Construction of Dreams and Images." *Journal of American Psychoanalytic Association* 5: 5-60; No. 1, 1957.
28. FLOURNOY, FRANCES. "A Consideration of the Ways Children Think When Performing Higher-Decade Addition." *Elementary School Journal* 57: 204-208; January 1957.
29. GAIER, EUGENE L. "What the Teacher Needs To Know About the Role of Knowledge in Problem Solving." *Progressive Education* 30: 138-41; March 1953.
30. GALANTER, EUGENE, and GERSTENHABER, MURRAY. "On Thought: The Extrinsic Theory." *Psychological Review* 63: 218-27; July 1956.
31. GALANTER, EUGENE H., and SMITH, W. A. S. "Some Experiments on a Simple Thought-Problem." *American Journal of Psychology* 71: 359-66; June 1958.
32. GIBB, E. GLENADINE. "Children's Thinking in the Process of Subtraction." *Journal of Experimental Education* 24: 71-80; September 1956.
33. GIBSON, ELEANOR J. "Improvement in Perceptual Judgments as a Function of Controlled Practice or Training." *Psychological Bulletin* 50: 401-31; November 1953.
34. GRACE, HARRY A., and ARMSTRONG, EUGENIE A. "Problem-Solving Simplicity and Rigidity." *Psychological Reports* 1: 369-70; December 1955.
35. GUILFORD, J. P. "The Structure of Intellect." *Psychological Bulletin* 53: 267-93; July 1956.
36. GUNDERSON, AGNES G. "Thought-Patterns of Young Children in Learning Multiplication and Division." *Elementary School Journal* 55: 453-61; April 1955.
37. HAMLYN, DAVID W. *The Psychology of Perception: A Philosophical Examination of Gestalt Theory and Derivative Theories of Perception.* London: Routledge and Kegan Paul, 1957. 120 p.
38. HONZIK, MARJORIE P. "Developmental Studies of Parent-Child Resemblance in Intelligence." *Child Development* 28: 215-28; June 1957.
39. HOUSE, BETTY J., and ZEAMAN, DAVID. "A Comparison of Discrimination Learning in Normal and Mentally Defective Children." *Child Development* 29: 411-16; September 1958.

40. HOVLAND, CARL I., and WEISS, WALTER. "Transmission of Information Concerning Concepts Through Positive and Negative Instances." *Journal of Experimental Psychology* 45: 175-82; March 1953.
41. HOWELL, WALLACE J. "Concept Formation of Work-Study Skills by Use of Autobiographies in Grade Four." *Journal of Educational Psychology* 44: 257-65; May 1953.
42. HYRAM, GEORGE H. "An Experiment in Developing Critical Thinking in Children." *Journal of Experimental Education* 26: 125-32; December 1957.
43. IMMERGLUCK, LUDWIG. "The Role of Set in Perceptual Judgment." *Journal of Psychology* 34: 181-89; October 1952.
44. INHELDER, BARBEL, and PIAGET, JEAN. *The Growth of Logical Thinking from Childhood to Adolescence.* New York: Basic Books, 1958. 356 p.
45. ITTELSON, WILLIAM H., and CANTRIL, HADLEY. *Perception, a Transactional Approach.* Garden City, N. Y.: Doubleday and Co., 1954. 33 p.
46. JACKSON, DOUGLAS N. "Intellectual Ability and Mode of Perception." *Journal of Consulting Psychology* 21: 458; December 1957.
47. JOHNSON, DONALD M. *The Psychology of Thought and Judgment.* New York: Harper and Brothers, 1955. 510 p.
48. JOHNSON, DONALD M. "What the Teacher Should Know About Symbols and Thought." *Progressive Education* 30: 145-49; March 1953.
49. KENDLER, HOWARD H.; GREENBERG, ARTHUR; and RICHMAN, HOWARD. "The Influence of Massed and Distributed Practice on the Development of Mental Set." *Journal of Experimental Psychology* 43: 21-25; January 1952.
50. KENDLER, HOWARD H., and KENDLER, TRACY S. "Inferential Behavior in Preschool Children." *Journal of Experimental Psychology* 51: 311-14; April 1956.
51. KRECH, DAVID, and CALVIN, ALLEN. "Levels of Perceptual Organization and Cognition." *Journal of Abnormal and Social Psychology* 48: 394-400; June 1953.
52. LEVIT, MARTIN. "On the Psychology and Philosophy of Concept Formation." *Educational Theory* 3: 193-207; July 1953.
53. LEVY, NISSIM M., and CUDDY, JOSEPH M. "Concept Learning in the Educationally Retarded Child of Normal Intelligence." *Journal of Consulting Psychology* 20: 445-48; December 1956.
54. MALTZMAN, IRVING, and MORRISETT, LLOYD, JR. "Different Strengths of Sets in the Solution of Anagrams." *Journal of Experimental Psychology* 44: 242-46; October 1952.
55. MALTZMAN, IRVING, and OTHERS. "The Facilitation of Problem Solving by Prior Exposure to Uncommon Responses." *Journal of Experimental Psychology* 56: 399-406; November 1958.
56. MEAD, ARTHUR R. "Illustrations of Levels of Learning Activity: Objective-Improvement of Thinking Abilities." *Peabody Journal of Education* 33: 107-108; September 1955.
57. METHVIN, MARILYN W. *Comparison of Conceptualizing Abilities Between Groups of Mentally Defective and Normal Children.* Master's thesis. University: University of Alabama, 1954.
58. MORTON, JAMES T. "What the Teacher Needs To Know About the Influence of Personal Conviction or Other Emotions on Logical Thinking." *Progressive Education* 30: 141-44; March 1953.
59. MURPHY, LOIS B. "Learning How Children Cope with Problems." *Children* 4: 132-36; July 1957.
60. NADELMAN, LORRAINE. "Influence of Concreteness and Accessibility on Concept-Thinking." *Psychological Reports* 3: 189-212; June 1957.
61. NASS, MARTIN L. "The Effects of Three Variables on Children's Concepts of Physical Causality." *Journal of Abnormal and Social Psychology* 53: 191-96; September 1956.
62. NAVARRA, JOHN G. *The Development of Scientific Concepts in a Young Child.* Teachers College Studies in Education. New York: Teachers College, Columbia University, 1955. 147 p.
63. NEAL, LOUISE A. *Techniques for Developing Methods of Scientific Inquiry in Children in Grades One Through Six.* Doctor's thesis. Greeley: Colorado State College of Education, 1957. 345 p.

64. NUNNALLY, NANCY. *Primary Films as a Factor in Promoting Conceptual and Factual Learning in Kindergarten Children.* Doctor's thesis. Abstract: *Studies in Education, 1955.* Vol. 7. Bloomington: Indiana University, School of Education, 1956. p. 215-19.
65. PIAGET, JEAN. *The Origins of Intelligence in Children.* New York: International Universities Press, 1952. 419 p.
66. PIAGET, JEAN. *The Psychology of Intelligence.* New York: Harcourt Brace and Co., 1950. 182 p.
67. PIAGET, JEAN, and INHELDER, BARBEL. *The Child's Conception of Space.* London: Routledge and Kegan Paul, 1956. 490 p.
68. PLENDERLEITH, MAVIS. "Discrimination Learning and Discrimination Reversal Learning in Normal and Feebleminded Children." *Journal of Genetic Psychology* 88: 107-12; March 1956.
69. PRESCOTT, DANIEL A. *The Child in the Educative Process.* New York: McGraw-Hill Book Co., 1957. 502 p.
70. PRICE, HENRY H. *Thinking and Experience.* Cambridge, Mass.: Harvard University Press, 1953. 365 p.
71. RAY, WILBERT S. "Complex Tasks for Use in Human Problem-Solving Research." *Psychological Bulletin* 55: 134-49; March 1955.
72. ROKEACH, MILTON; MCGOVNEY, WARREN C.; and DENNY, M. RAY. "A Distinction Between Dogmatic and Rigid Thinking." *Journal of Abnormal and Social Psychology* 51: 87-93; July 1955.
73. ROMANOW, CONSETTA V. "Anxiety Level and Ego Involvement as Factors in Concept Formation." *Journal of Experimental Psychology* 56: 166-73; August 1958.
74. RUSSELL, DAVID H. *Children's Thinking.* Boston: Ginn and Co., 1956. 449 p.
75. RUSSELL, DAVID H. "The Development of Thinking Processes." *Review of Educational Research* 23: 137-45; April 1953.
76. RUSSELL, NED M. "Concept Development." *Research in the Three R's.* (Edited by Clarence W. Hunnicutt and William J. Iverson.) New York: Harper and Brothers, 1958. p. 382-83.
77. SCHRODER, HAROLD M., and ROTTER, JULIAN B. "Rigidity as Learned Behavior." *Journal of Experimental Psychology* 44: 141-50; September 1952.
78. SHEPARD, WINIFRED O. "The Effect of Verbal Training on Initial Generalization Tendencies." *Child Development* 27: 311-16; September 1956.
79. SIGEL, IRVING E. "Development Trends in the Abstraction Ability of Children." *Child Development* 24: 131-44; June 1953.
80. SKINNER, BURRHUS F. *Verbal Behavior.* New York: Appleton-Century-Crofts, 1957. 478 p.
81. SMITH, B. OTHANEL. "The Improvement of Critical Thinking." *Progressive Education* 30: 129-34; March 1953.
82. SMOCK, CHARLES D. "Perceptual Rigidity and Closure Phenomenon as a Function of Manifest Anxiety in Children." *Child Development* 29: 237-47; June 1958.
83. STEVENSON, HAROLD W., and STEWART, EDWARD C. "A Developmental Study of Racial Awareness in Young Children." *Child Development* 29: 399-409; September 1958.
84. STRAUSS, ANSELM L. "The Development and Transformation of Monetary Meanings in the Child." *American Sociological Review* 17: 275-86; June 1952.
85. TAYLOR, DONALD W., and MCNEMAR, OLGA W. "Problem Solving and Thinking." *Annual Review of Psychology.* Vol. 6. Stanford, Calif.: Annual Reviews, 1955. p. 455-82.
86. THURSTONE, L. L. "A Psychologist Discusses the Mechanism of Thinking." *The Nature of Creative Thinking.* (Edited by Fred Olsen and others.) New York: New York University Press, 1957. p. 35-45.
87. TRESSELT, MARGARET E., and LEEDS, DONALD S. "The Effect of Concretizing the Mental Set Experiment." *Journal of General Psychology* 48: 51-55; January 1953.
88. TRESSELT, MARGARET E., and LEEDS, DONALD S. "The Einstellung Effect in Immediate and Delayed Problem-Solving." *Journal of General Psychology* 49: 87-95; January 1953.
89. VAN DE GEER, JOHAN P. *A Psychological Study of Problem Solving.* Haarlem, Netherlands: Detoorts, 1957. 216 p.

90. VINACKE, WILLIAM E. "Concept Formation in Children of School Ages." *Education* 74: 527-34; May 1954.
91. VINACKE, WILLIAM E. "Developmental Changes in Thinking." *Education* 77: 318-22; January 1957.
92. WATSON, ALAN J. "Perception." *Experimental Psychology*. (Edited by Brian A. Farrell.) New York: Philosophical Library, 1955. p. 1-12.
93. WEINSTEIN, EUGENE A. "Development of the Concept of Flag and the Sense of National Identity." *Child Development* 28: 167-74; June 1957.
94. WITKIN, HERMAN A., and OTHERS. *Personality Through Perception: An Experimental and Clinical Study*. New York: Harper and Brothers, 1954. 571 p.

CHAPTER VII

Personal-Social Development

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REVIEWING the literature on personal-social development, one becomes immediately aware of the need for a concise definition of personal-social behavior or at least a practical guide to delimiting the field. There is no explicit statement of what personal-social development encompasses. Of the fields of child development, this seems to be most diffuse because almost any variable, such as heredity, sex, intelligence, and perception, impinges also on personal-social development. Personal development cannot be considered apart from social; these are not mutually exclusive terms. The difficulty in definition lies partly in complexity and partly in the fact that there is no comprehensive theoretical structure which has considered all the known variables involved in personal-social development and arranged them into a conceptual pattern. At present the variables seem to be ranged along a linear continuum, at least on the level of implicit theory making; hence the interrelationships among variables are not readily apparent, and a unifying theme is precluded. The reader interested in various viewpoints about what the field encompasses and in recent previous reviews of research is referred to appropriate chapters in a recent issue of the REVIEW (4), and to compilations by Foshay and Green (27) and by Banning (7).

In this review, only an empirical definition of personal-social development, based primarily on the categories of research studies found in the literature, is offered. These categories are not posited as desirable, theoretically defensible, or mutually exclusive. They are useful to organize the overlapping research interests in personal-social development. Criteria used for selection of the specific studies (1952-58) included in this review are an age range for subjects of four to 12 years and some degree of direct relationship to the daily problems encountered by children in elementary-school classrooms. The areas reviewed are (a) personality, (b) self-concept, (c) social learnings, (d) social acceptance, (e) creativity, (f) ethnocentrism, and (g) parent-child relationships.

Personality

Personality is probably the most comprehensive term that can be used in consideration of human behavior. In a broad sense, it refers to the person and his relationships in the social setting. Research workers from different fields may concentrate upon some particular aspect of personality, but it becomes increasingly apparent that there are interrelations among the various facets. Historically speaking, those who have concerned themselves with the study of personality have moved from a position of

confidence in simple and directly observable traits to an awareness of the complexity of personality. The instability of the postulated attributes in different frames of reference has led to theories of personality which take dynamic factors into account. Some of the theoretical and methodological problems were discussed by Krugman (54) and Murphy (68).

Although it is widely held that the genesis of personality lies in the formative childhood years, few objective studies have been directed to the development of personality in the child. Gesell and Ilg (31) made a major contribution with their extensive descriptions obtained through observation. More recently Cattell and Coan (18) reported a study of the personality factors derived from ratings obtained from parents of 145 first-grade and second-grade children. They found the personality-factor structure of children to be no less complex than that of adults and that primary personality factors recognized in adults also appeared in children. Burchinal, Gardner, and Hawkes (17) reported that children of high socioeconomic status tended to show fewer indications of personality maladjustment. Ellis and Beechley (24) found that peculiar given names of children may affect them adversely. As to the relationship between physical factors and personality, Mussen and Jones (69) reported that high drives for social acceptance and toward aggression were more characteristic of the physically retarded than of the physically accelerated. Davidson, McInnes, and Parnell (21) classified 100 healthy English seven-year-olds into three body types and concluded that there is a discernible association between behavior patterns and measurable somatic components.

Few studies have attempted to determine the relationships of school environment and personality. Jackson (47) concluded that academic achievement and personal-social integration are independent of classroom organization. Russell and Thalman (80) found relationship between achievement marks and personality ratings given a pupil by a teacher. Using 100 teachers and their pupils in grades 4 through 8, Amatora (3) had each teacher rated on 12 elements of personality by three or four fellow teachers and had the children rated on the same elements by eight classmates and three or four teachers. She found no negative correlation; on more than half the scales the similarity between teacher and pupil personality showed statistical significance at the 1-percent level of confidence.

Self-Concept

In recent years the concept of self has commanded attention from students of personal and social development. Combs (20) expressed the opinion of many in stating that a person's behavior is dependent on how he sees himself and how he sees the world he lives in. In the study of self-concept, as with personality, the theoretical conceptions have outstripped the measuring tools. Most of the research is based on self-reports whose

validity can be questioned. Among recent discussions are those of Allport (1), Brandt (15), and Moustakas and Jayaswol (66).

Several studies substantiated the belief that there is a relationship between the self-concept and adjustment. Taylor and Combs (85) reported that better adjusted children tended to view themselves more matter-of-factly. Trent (86) found that children most self-accepting expressed significantly positive attitudes. Reckless, Dinitz, and Murray (76) reported that "good" boys had a socially acceptable self-concept which seemed to guard them against delinquency. Walsh (87) found that bright boys with learning difficulties tended to possess negative self-concepts. Brandt (13) concluded that whether an individual is accurate or inaccurate as to self-estimate seems to depend more on his self-structure than on the specific nature of the perceived characteristics.

Some see the individual's self-concept as being shaped by persons important to him. Jourard and Remy (50) reported a significant relationship between the self-concept and the perceived parental concept. Langford and Alm (56) found that parents tend to underestimate a child's feelings and concepts concerning self-adjustment and overestimate those concerning social adjustment. From a study of 75 delinquent boys, Koppitz (53) found a direct relationship between parental attitudes and actions and the boys' self-evaluations.

A number of studies were concerned with the changing self-concept and factors influencing the change. Perkins (73) reported that children in grades 4 and 6 differed as to grade, sex, stability, and consistency of self-concept. In a later study, Perkins (74) found a relationship between stability of self-concept and intelligence. Amatora (2) identified trends in changing self-evaluations of 500 children from 9 to 13 years of age. Havighurst and MacDonald (43) found the same developmental trend in the ideal self in New Zealand and American children. Smith and Lebo (82) and Mussen and Jones (70) reported relationships between self-concepts of boys and the onset of puberty.

There is a definite need for more understanding of the effects of various school practices on the self-concept. For example, it is apparent that underachievement often has an emotional basis, but not enough is known about such cases. Brandt (14) stated that research begins to show that children who have experience in evaluating their classroom activities are more accurate in self-appraisal than other children. Russell (79) presented a review of the research on children's self-evaluation, particularly as it relates to school activities. Jersild (48) and Jersild and Helfant (49) offered many suggestions applicable to classroom activities.

Social Learnings

The nature of the research and the general writing in this area indicate that social learning is conceived as being the process of interaction be-

tween the individual and his environment. Hilliard (46) and Miel and Brogan (63) discussed the development of social learnings in the school situation. A comprehensive treatment of social education was presented by Otto (72). Dukes (23) summarized briefly the findings on the origin and development of values. Much of the research has been directed toward the effects of the environment on the social learnings of children. Werner (88) found significant differences in social competence among urban, small-town, and farm children at kindergarten and fifth-grade levels. Pope (75) reported socioeconomic differences in prestige values of the peer cultures of 12-year-olds. Using Piaget's "Methode Clinique" in a study of Swiss and American children, Boehm (9) concluded that American children became more independent of parents and more dependent upon peers at an earlier age than did Swiss children.

Stott and Ball (84) contended that although readiness is the first requisite, the learning process still must take place in order that children may become socially interactive and responsive. A continuing study of responsibility in children has been reported by Harris and associates (35, 36, 37, 38, 39, 40, 64). Among the findings were: (a) Parent judgments do not predict measured responsibility. (b) There is little evidence that routine tasks assigned at home were associated with attitudes of responsibility. (c) Responsibility as measured is closely associated with general emotional and social adjustment.

A few investigations were carried out in the school situation. Foshay and others (28) and Foshay (26), in reports of an extensive action-research project concerned with children's social values, concluded that teachers can identify and teach values directly without distortion in the course of their regular work. Bonney and Nicholson (10) found no persistent advantages of preschool training in regard to social adjustment. Bonney and Perry (11) found that shared participation experiences (book reports with one other child, room helper, etc.) had little effect upon the social adjustment of three second-grade children who were generally described as a "bully," a "bossy" child, and a "shy, withdrawn" child. They cautioned against easy optimism in the effort to help children attain social-personal adjustment.

Social Acceptance

The status of children in their social group and the general characteristics of group structure have been studied extensively. Meredith (61) reported data from a number of diverse sociometric studies. Several generalizations included the observations that children of high status exhibit more positive behavioral patterns, that there is a general rejection of overage children in heterogeneous classroom groups, and that there is a close relationship between academic achievement and social acceptance at grade levels beyond the kindergarten. Two recent studies (29, 89)

showed that the moderately gifted child is highly acceptable to his peer group and that the bright child does not limit his choice of friends to equally gifted peers. The relationship between residential proximity and social acceptance was studied by Gallagher (30) and DeVault (22). Their data confirmed the importance of proximity as a factor in social choice situations. DeVault's data showed that children tend to choose friends who live successively farther from them as they progress through the 12 grades. Heber and Heber (44) studied the effect of success and failure on group status. Results from small-group experiences for a second-grade and a fourth-grade class showed that social status rose after group experience. When failure was experienced, there was a decrease in status significant beyond the 1-percent level. There was no significant differential effect on social status after a success and a neutral (neither success nor failure) experience.

Rosenthal (77) reported an intensive study of the relationship between social acceptance and language patterns. He concluded that children of high acceptance use active, varied language patterns significantly different from the language patterns of children of low acceptance. Meyer and Thompson (62) investigated sex differences in distribution of teacher approval among sixth-grade children. Actual observation and "Guess Who" test results showed that there were significantly more "blame contacts" for boys and that children nominated correctly those who received the greatest number of "blame and praise contacts." Gray (33) reported on the relationship of acceptance, anxiety, and sex-appropriate behavior. She concluded that high anxiety was associated, at the 5-percent level, with high sex-appropriate behavior. McCandless, Castaneda, and Palermo (58) used the *Children's Manifest Anxiety Scale* and a single-question friendship test with a group of fourth-grade, fifth-grade, and sixth-grade children. Their conclusion was that, in general, the more anxious children were less popular and that the effects of classroom climates on acceptance should be investigated further. McCandless and Marshall (59) studied carefully the effects of several variables on social acceptance among preschool children. They reported that scores from a picture sociometric test were positively related to observed friendly social interaction and to teacher judgment of acceptance, but that individual teachers varied markedly in ability to judge a child's best friends. Other sociometric studies were descriptive of group structure or attempted to study various methodological problems.

The number of studies of social acceptance is large; many are descriptive, or repetitive, or both. There is a lack of theoretical framework which might produce a series of related studies designed to explore the effects of manipulable independent variables on social acceptance. The use of elaborate statistical methods on data which do not seem related to any corresponding frame of reference must be seriously questioned. Promising research in language, anxiety, and sex-appropriate behavior merits further study.

Creativity

Creativity can be discussed in relation to personal-social development on at least two levels: creativity as one dimension of personality, and the use of creative products as projective tests. A study by Ausubel and others (6) tested suggestibility of fourth-grade and fifth-grade children by means of an art preference test. After exposure to the comments of an adult "expert" who expressed preference for abstract paintings, there was a shift, significant beyond the 1-percent level, toward favoring abstract art. Hare and Hare (34) used drawings of children aged 6 to 10 years to demonstrate a relationship, at the 5-percent level, between teacher ratings of children's social status and certain elements in children's drawings of preferred playground activities. Somewhat contradictory results were reported by Martin (60), who tested experimentally the hypothesis that there was a relationship between children's drawings and security or insecurity as judged by tests of personality and teacher ratings. Martin concluded, within the limitations of a relatively small sample, that differences between secure and insecure children could not be ascertained, at a significant level, from analysis of their drawings. Present means of determining children's security or insecurity might well be so primitive that any hypothesized relationship would be obscure when tested experimentally.

Controlled studies on creativity as a dimension of the personal-social development of elementary-school children were not found. A comprehensive overview by Hausman (42) of the graphic and plastic arts included topics such as the semantic theory of art, aesthetics and perception, and descriptive studies of art education. Promising research in determining the criteria which differentiated between creative and less creative people was discussed in a general article by Lowenfeld (57). He named eight traits which were identified during a seven-year research project at the Pennsylvania State University.

Further research in this area is needed to help teachers to (a) define more specifically the nature of the creative process; (b) assess the relationship of creativity to general personal-social development; (c) indicate potential contributions of art products as projective tests; (d) explore the various effects on creativity of the self-contained classroom, teacher competence and personality, range and availability of materials, and methods of teaching used.

Ethnocentrism

Attitudes toward various ethnic groups presumably affect both the extent and affective level of children's interpersonal relationships. Previous research in this area has shown that various aspects of personality seem to be closely related to ethnocentrism. Muuss and Stendler (71) presented a comprehensive review of research on ethnocentrism in children. They indicated that two positions concerning the origin of ethnocentrism were learning theory and the scapegoat theory. Among the variables which

influenced ethnocentrism were adult attitudes, the authoritarian home, downward social mobility, and favorable contacts with individuals from minority groups. In generalizing about intercultural education, these authors concluded that younger children are more susceptible to change. In the classroom, a multidimensional approach was recommended and teachers were advised to consider particularly the attitudes of children with high group status. Experimental studies by Stevenson and Stewart (83) and Landreth and Johnson (55) showed that patterns of response to skin color were present as early as three years and became accentuated within the succeeding years of early childhood. In both studies, Negro children evidenced higher degrees of rejection of self as they apparently internalized rapidly the stereotypical role assigned them by the culture. Studies of children beyond elementary-school age have shown that children do tend to accept cultural stereotypes. Several books presented research in this area. A detailed descriptive study of ethnocentrism in preschool children was reported by Goodman (32). Clark (19) compiled results of numerous research studies and presented them in a book intended primarily for parents.

Future research in this area should focus more intensively on the relationship of ethnocentrism to other personality and social-learning variables. Better means of measuring prejudice and the characteristics of family and school climates which affect it are needed. Studies of the interrelationship of self-concept and ethnocentrism which revealed a developmental pattern would prove useful to all who work with children.

Parent-Child Relationships

The importance of the effects of familial relationships on personal-social development has long been recognized. Research workers have attempted to explore various dimensions of parent-child relationships. Among these are (a) role specialization, (b) perception of parental figures, (c) the parents as cultural transmitters, and (d) the effects on children of irregular family patterns.

Bossard and Boll (12) studied specialized family roles in 64 families. A composite picture revealed eight main types, among which were (a) the responsible child, (b) the popular child, and (c) the socially ambitious child. The speculative discussion of family patterns eventuating in these roles was helpful in suggesting possible causes for such specialization. Koch (52) reported a detailed study of the relationship between sibling characteristics and certain emotional attitudes of four- and five-year-old children.

Attempting to determine the relationship of parental attitudes and children's adjustment, Burchinal (16), in a follow-up study, found virtually no measurable relationship. This conclusion substantiated the importance of the role of perception of parental attitudes and pointed toward a certain possible weakness of paper-and-pencil measures of personal-social adjust-

ment. Ausubel and others (5) showed that fourth-grade and fifth-grade girls perceived themselves as significantly more accepted and intrinsically valued by parents than did boys. In general, perceptions of acceptance and intrinsic valuation were related. Harris and Tseng (38) and Kagan (51) studied sex differences in perception of parents and peers. Attitudes of both boys and girls at all levels were more positive toward the mother. Harris and Tseng (38), among other conclusions, reported that positive attitudes to own-sex peers exceeded cross-sex choices at every level in grades 3 to 12. Shapiro (81) found that differences in perception of parental size and severity of punishment were not significantly different in children rated as aggressive or withdrawn. Differences in general optimism about outcomes of behavior were significant. In a descriptive study of perception of the mother, Mott (65) reported that four- and five-year-olds perceived the mother as very active and as the center of family activity. Fauls and Smith (25) concluded that four- and five-year-olds choose sex-appropriate activities in terms of their perception of parental preference.

The effects of family climate were discussed by Mummery (67), who stated that qualitative distinctions in democratic climates need to be considered in future studies. Hess and Handel (45) reported that cultural rather than individual patterns of aggression were transmitted by parents to their children although more individual variations were transmitted by the mother. Koppitz (53) and Rouman (78) studied the effects of irregular family patterns on interpersonal relations and various adjustment factors. Their findings generally substantiated the importance of stable, accepting parent figures and the variety of negative personality effects of irregular family patterns.

Summary

It is possible to state a number of broad generalizations about self-concept, social status, ethnocentrism, parent-child relationships, and other aspects of personal-social behavior. To be most useful, these generalizations, as well as others yet to be formulated, must be used as hypotheses for finding specific answers to a multitude of educational and clinical problems. The development of a more inclusive theory, methodology based upon that theory, and more adequate means for disseminating research data would strengthen greatly a continuing co-operative relationship between the sciences of human behavior and the professions whose work centers on the daily needs and behavior of children.

Bibliography

1. ALLPORT, GORDON W. *Becoming: Basic Considerations for a Psychology of Personality*. New Haven: Yale University Press, 1955. 106 p.
2. AMATORA, SISTER MARY. "Developmental Trends in Pre-Adolescence and in Early Adolescence in Self-Evaluation." *Journal of Genetic Psychology* 91: 89-97; September 1957.
3. AMATORA, SISTER MARY. "Similarity in Teacher and Pupil Personality." *Journal of Psychology* 37: 45-50; January 1954.

4. AMERICAN EDUCATIONAL RESEARCH ASSOCIATION. "Growth, Development, and Learning." *Review of Educational Research* 28: 410-32; December 1958.
5. AUSUBEL, DAVID P., and OTHERS. "Perceived Parent Attitudes as Determinants of Children's Ego Structure." *Child Development* 25: 173-83; September 1954.
6. AUSUBEL, DAVID P., and OTHERS. "Prestige Suggestions in Children's Art Preferences." *Journal of Genetic Psychology* 89: 85-93; September 1956.
7. BANNING, EVELYN I. "Social Influences on Children and Youth." *Review of Educational Research* 25: 36-47; February 1955.
8. BIEHLER, ROBERT F. "Companion Choice Behavior in the Kindergarten." *Child Development* 25: 45-50; March 1954.
9. BOEHM, LEONORE. "The Development of Independence: A Comparative Study." *Child Development* 28: 85-92; March 1957.
10. BONNEY, MERL E., and NICHOLSON, ERTIE L. "Comparative Social Adjustments of Elementary School Pupils with and Without Preschool Training." *Child Development* 29: 125-33; March 1958.
11. BONNEY, MERL E., and PERRY, MARY G. "An Evaluation of Some Efforts To Improve the Social Adjustments of a Few Selected Second Grade Pupils." *Teachers College Journal* 28: 16-19; November 1956.
12. BOSSARD, JAMES H. S., and BOLL, ELEANOR S. "Personality Roles in the Large Family." *Child Development* 26: 71-78; March 1955.
13. BRANDT, RICHARD M. "The Accuracy of Self Estimate: A Measure of Self-Concept Reality." *Genetic Psychology Monographs* 58: 55-99; August 1958.
14. BRANDT, RICHARD M. "Children Who Know and Like Themselves." *Childhood Education* 33: 299-303; March 1957.
15. BRANDT, RICHARD M. "Self: Missing Link for Understanding Behavior." *Mental Hygiene* 41: 24-33; January 1957.
16. BURCHINAL, LEE G. "Parents' Attitudes and Adjustment of Children." *Journal of Genetic Psychology* 92: 69-79; March 1958.
17. BURCHINAL, LEE; GARDNER, BRUCE; and HAWKES, GLENN R. "Children's Personality Adjustment and the Socio-Economic Status of Their Families." *Journal of Genetic Psychology* 92: 149-59; June 1958.
18. CATTELL, RAYMOND B., and COAN, RICHARD W. "Personality Factors in Middle Childhood as Revealed in Parents' Ratings." *Child Development* 28: 439-58; December 1957.
19. CLARK, KENNETH B. *Prejudice and Your Child.* Boston: Beacon Press, 1955. 151 p.
20. COMBS, ARTHUR W. "New Horizons in Field Research: The Self Concept." *Educational Leadership* 15: 315-17; February 1958.
21. DAVIDSON, MAY A.; MCINNES, R. G.; and PARNELL, R. W. "The Distribution of Personality Traits in Seven-Year-Old Children: A Combined Psychological, Psychiatric and Somatotype Study." *British Journal of Educational Psychology* 27: 48-61; February 1957.
22. DEVAULT, MARION V. "Classroom Sociometric Mutual Pairs and Residential Proximity." *Journal of Educational Research* 50: 605-10; April 1957.
23. DUKES, WILLIAM F. "Psychological Studies of Values." *Psychological Bulletin* 52: 24-50; January 1955.
24. ELLIS, ALBERT, and BEECHLEY, ROBERT M. "Emotional Disturbances in Children with Peculiar Given Names." *Journal of Genetic Psychology* 85: 337-39; December 1954.
25. FAULS, LYDIA B., and SMITH, WALTER D. "Sex-Role Learning of Five-Year-Olds." *Journal of Genetic Psychology* 89: 105-17; September 1956.
26. FOSHAY, ARTHUR W. "Considerateness and Aggression: An Action Research Study." *Educational Research Bulletin* 32: 85-112; April 1953.
27. FOSHAY, ARTHUR W., and GREEN, JOHN. "The Development of Social Processes." *Review of Educational Research* 23: 146-50; April 1953.
28. FOSHAY, ARTHUR W., and OTHERS. *Children's Social Values: An Action Research Study.* Horace Mann-Lincoln Institute of School Experimentation Publication. New York: Teachers College, Columbia University, 1954. 323 p.
29. GALLAGHER, JAMES J. "Peer Acceptance of Highly Gifted Children in Elementary School." *Elementary School Journal* 58: 465-70; May 1958.
30. GALLAGHER, JAMES J. "Social Status of Children Related to Intelligence, Propinquity and Social Perception." *Elementary School Journal* 58: 225-31; January 1958.

31. GESELL, ARNOLD L., and ILG, FRANCES. *The Child from Five to Ten.* New York: Harper and Brothers, 1946. 475 p.
32. GOODMAN, MARY E. *Race Awareness in Young Children.* Cambridge, Mass.: Addison-Wesley Press, 1952. 280 p.
33. GRAY, SUSAN W. "Masculinity-Femininity in Relation to Anxiety and Social Acceptance." *Child Development* 28: 203-14; June 1957.
34. HARE, A. PAUL, and HARE, RACHEL T. "The Draw-a-Group Test." *Journal of Genetic Psychology* 89: 51-59; September 1956.
35. HARRIS, DALE B. "How Student Teachers Identify Responsibility in Children." *Journal of Educational Psychology* 45: 233-39; April 1954.
36. HARRIS, DALE B. "Parental Judgment of Responsibility in Children, and Children's Adjustment." *Journal of Genetic Psychology* 92: 161-66; June 1958.
37. HARRIS, DALE B. "A Scale for Measuring Attitudes of Social Responsibility in Children." *Journal of Abnormal and Social Psychology* 55: 322-26; November 1957.
38. HARRIS, DALE B., and TSENG, SING CHU. "Children's Attitudes Toward Peers and Parents as Revealed by Sentence Completions." *Child Development* 28: 401-11; December 1957.
39. HARRIS, DALE B., and OTHERS. "The Measurement of Responsibility in Children." *Child Development* 25: 21-28; March 1954.
40. HARRIS, DALE B., and OTHERS. "Personality Differences Between Responsible and Less Responsible Children." *Journal of Genetic Psychology* 87: 103-109; September 1955.
41. HARRIS, DALE B., and OTHERS. "The Relationship of Children's Home Duties to an Attitude of Responsibility." *Child Development* 25: 29-33; March 1954.
42. HAUSMAN, JEROME J. "Graphic and Plastic Arts." *Review of Educational Research* 28: 169-79; April 1958.
43. HAVIGHURST, ROBERT J., and MACDONALD, DONALD V. "Development of the Ideal Self in New Zealand and American Children." *Journal of Educational Research* 49: 263-73; December 1955.
44. HEBER, RICK F., and HEBER, MARY E. "Effect of Group Failure and Success on Social Status." *Journal of Educational Psychology* 48: 129-34; March 1957.
45. HESS, ROBERT D., and HANDEL, GERALD. "Patterns of Aggression in Parents and Their Children." *Journal of Genetic Psychology* 89: 199-212; December 1956.
46. HILLIARD, PAULINE. *Improving Social Learnings in the Elementary School.* New York: Teachers College, Columbia University, 1954. 144 p.
47. JACKSON, JOSEPH. "The Effect of Classroom Organization and Guidance Practice upon the Personality Adjustment and Academic Growth of Students." *Journal of Genetic Psychology* 83: 159-70; September 1953.
48. JERSILD, ARTHUR T. *In Search of Self: An Explanation of the Role of the School in Promoting Self-Understanding.* New York: Teachers College, Columbia University, 1952. 141 p.
49. JERSILD, ARTHUR T., and HELFANT, K. *Education for Self-Understanding; Role of Psychology in the High School Program.* Horace Mann-Lincoln Institute of School Experimentation Publication. New York: Teachers College, Columbia University, 1953. 54 p.
50. JOURARD, SIDNEY M., and REMY, RICHARD M. "Perceived Parental Attitudes, the Self, and Security." *Journal of Consulting Psychology* 19: 364-66; October 1955.
51. KAGAN, JEROME. "The Child's Perception of the Parent." *Journal of Abnormal and Social Psychology* 53: 257-58; May 1956.
52. KOCH, HELEN L. "Some Emotional Attitudes of the Young Child in Relation to Characteristics of His Sibling." *Child Development* 27: 393-426; December 1956.
53. KOPPITZ, ELIZABETH M. "Relationships Between Some Background Factors and Children's Interpersonal Attitude." *Journal of Genetic Psychology* 91: 119-29; September 1957.
54. KRUGMAN, MORRIS. "Changing Methods of Appraising Personality." *Proceedings of the Invitational Conference on Testing Problems, 1956.* Princeton, N. J.: Educational Testing Service, 1957. p. 48-57.
55. LANDRETH, CATHERINE, and JOHNSON, BARBARA C. "Young Children's Responses to a Picture and Inset Test Designed To Reveal Reactions to Persons of Different Skin Color." *Child Development* 24: 63-80; March 1953.

56. LANGFORD, LOUISE M., and ALM, O. W. "Comparison of Parent Judgments and Child Feelings Concerning the Self Adjustment and Social Adjustment of Twelve-Year-Old Children." *Journal of Genetic Psychology* 85: 39-46; September 1954.
57. LOWENFELD, VIKTOR. "Current Research on Creativity." *NEA Journal* 47: 538-40; November 1958.
58. MCCANDLESS, BOYD R.; CASTANEDA, ALFRED; and PALERMO, DAVID S. "Anxiety in Children and Social Status." *Child Development* 27: 385-91; December 1956.
59. MCCANDLESS, BOYD R., and MARSHALL, HELEN R. "Picture Sociometric Technique for Preschool Children and Its Relation to Teacher Judgments of Friendship." *Child Development* 28: 139-47; June 1957.
60. MARTIN, WILLIAM E. "Identifying the Insecure Child: The Use of Children's Drawings." *Journal of Genetic Psychology* 86: 327-38; June 1957.
61. MEREDITH, CAMERON W. "Personality and Social Development During Childhood and Adolescence." *Review of Educational Research* 25: 469-76; December 1955.
62. MEYER, WILLIAM J., and THOMPSON, GEORGE G. "Sex Differences in the Distribution of Teacher Approval and Disapproval Among Sixth Grade Children." *Journal of Educational Psychology* 47: 385-96; November 1956.
63. MIEL, ALICE, and BROGAN, PEGGY. *More Than Social Studies; A View of Social Learning in the Elementary School.* Englewood Cliffs, N. J.: Prentice-Hall, 1957. 452 p.
64. MITTON, BETTY L., and HARRIS, DALE B. "The Development of Responsibility in Children." *Elementary School Journal* 54: 268-77; January 1956.
65. MOTT, SINO M. "Concept of Mother—A Study of Four- and Five-Year-Old Children." *Child Development* 25: 99-106; June 1954.
66. MOUSTAKAS, CLARK E., and JAYASWOL, SITA RAM, editors. *The Self: Explorations in Personality Growth.* New York: Harper and Brothers, 1956. 284 p.
67. MUMMERY, DOROTHY V. "Family Backgrounds of Assertive and Non-Assertive Children." *Child Development* 25: 63-80; March 1954.
68. MURPHY, GARDNER. "Concepts of Personality—Then and Now." *Proceedings of the Invitational Conference on Testing Problems, 1956.* Princeton, N. J.: Educational Testing Service, 1957. p. 41-47.
69. MUSSEN, PAUL H., and JONES, MARY C. "The Behavior-Inferred Motivations of Late- and Early-Maturing Boys." *Child Development* 29: 61-67; March 1958.
70. MUSSEN, PAUL H., and JONES, MARY C. "Self-Conceptions, Motivations, and Interpersonal Attitudes of Late- and Early-Maturing Boys." *Child Development* 28: 243-56; June 1957.
71. MUUSS, ROLF, and STENDLER, CELIA B. "Intergroup Education in the Public Schools." *Educational Forum* 20: 151-64; January 1956.
72. OTTO, HENRY J. *Social Education in Elementary Schools.* New York: Rinehart and Co., 1956. 493 p.
73. PERKINS, HUGH V. "Changing Perceptions of Self." *Childhood Education* 34: 82-84; October 1957.
74. PERKINS, HUGH V. "Factors Influencing Change in Children's Self Concept." *Child Development* 29: 221-30; June 1958.
75. POPE, BENJAMIN. "Socio-Economic Contrasts in Children's Peer Culture Prestige Values." *Genetic Psychology Monographs* 48: 157-220; November 1953.
76. RECKLESS, WALTER C.; DINITZ, SIMON; and MURRAY, ELLEN. "Self Concept as an Insulator Against Delinquency." *American Sociological Review* 21: 744-46; December 1956.
77. ROSENTHAL, FRED. "Some Relationships Between Sociometric Position and Language Structure of Young Children." Journal of *Educational Psychology* 48: 483-97; December 1957.
78. ROUMAN, JACK. "School Children's Problems as Related to Parental Factors." *Understanding the Child* 24: 50-55; April 1955.
79. RUSSELL, DAVID H. "What Does Research Say About Self-Evaluation?" *Journal of Educational Research* 46: 561-73; April 1953.
80. RUSSELL, IVAN L., and THALMAN, W. A. "Personality: Does It Influence Teachers' Marks?" *Journal of Educational Research* 48: 561-64; April 1955.

81. SHAPIRO, DAVID S. "Perceptions of Significant Family and Environmental Relationships in Aggressive and Withdrawn Children." *Journal of Consulting Psychology* 21: 381-85; October 1957.
82. SMITH, WALTER D., and LEBO, DELL. "Some Changing Aspects of the Self-Concept of Pubescent Males." *Journal of Genetic Psychology* 88: 61-75; March 1956.
83. STEVENSON, HAROLD W., and STEWART, EDWARD C. "Developmental Study of Racial Awareness in Young Children." *Child Development* 29: 399-409; September 1958.
84. STOTT, LELAND H., and BALL, RACHEL S. "Consistency and Change in Ascendance-Submission in the Social Interaction of Children." *Child Development* 28: 259-72; September 1957.
85. TAYLOR, CHARLES, and COMBS, ARTHUR W. "Self Acceptance and Adjustment." *Journal of Consulting Psychology* 16: 89-91; April 1952.
86. TRENT, RICHARD D. "The Relation Between Expressed Self-Acceptance and Expressed Attitudes Toward Negroes and Whites Among Negro Children." *Journal of Genetic Psychology* 91: 25-31; September 1957.
87. WALSH, ANN M. *Self Concepts of Bright Boys with Learning Difficulties.* Studies in Education. New York: Teachers College, Columbia University, 1956. 79 p.
88. WERNER, EMMY. "Milieu Differences in Social Competence." *Journal of Genetic Psychology* 91: 239-49; December 1957.
89. WILLIAMS, META F. "Acceptance and Performance Among Gifted Elementary-School Children." *Educational Research Bulletin* 37: 216-20; November 1958.

CHAPTER VIII

Teacher-Pupil Relationships

JEROME LEAVITT

ONLY within the last few years have research workers directed any considerable attention to teacher-pupil relationships. Some studies conducted by people in the behavioral sciences have brought approaches to the problem different from those used by research workers from the field of professional education. The research is reviewed in this chapter in these areas: classroom climate, children's existing interests, teacher-pupil planning, discipline and democratic organization, social organization and interaction, and teachers' attitudes and values.

Classroom Climate

Most teachers know intuitively that they have an important mental health role to play in setting the classroom climate. Johnson (23) indicated that acceptance of the pupil by the teacher is fundamental. He pointed out that the effective teacher likes children, wants to help them, and feels that they can be helped. The wise teacher sets limits on behavior and maintains these limits. Farnsworth (14) provided an outline of psychiatric principles that define (a) the attitude of the good teacher toward himself and toward his pupils, (b) the teacher's role in promoting pupil maturity, and (c) other aspects of the teacher-pupil relationship.

Malpass (29) studied the relation of perception of school to school achievement in 92 eighth-grade pupils. He found that perception of the school situation was related to achievement as measured by teachers' grades but not as measured by standardized achievement tests. Taba (50) concluded that the school can modify certain aspects of personality and improve social values as well as increase children's response to people.

The question as to whether a correlation exists between the preference of pupils for teachers of like or opposite sex and the specific difficulties that teachers experience with pupils of like or opposite sex was investigated by Callender (8), who questioned more than 30 teachers and pupils. He found that, in general, women teachers had more difficulty with girls and men with boys. Girls displayed a preference for men instructors, and boys favored women. Investigating sex differences in distribution of teacher approval and disapproval in three sixth-grade classrooms, Meyer and Thompson (32) reported that boys received more disapproval than girls. Their conclusion was that teachers attempt to socialize the male by dominative counter-aggressive behavior. Levin, Hilton, and Leiderman (27) reviewed eight studies of teacher behavior and found it too complicated to predict, but suggested questions demanding further investigation.

The halo effect often prevents collection of accurate behavioral information from pupils. Medley and Klein (30) proposed that it be controlled by means of an inventory which measures both halo and certain aspects of behavior.

Bush (6) reported in a book-length study the progress of a long-term project inquiring into the teacher-pupil relationship and its social context.

Kephart and Floyd (25) evaluated the effect on fourth- and fifth-grade children of spending a school year in a co-ordinated classroom and found the experimental group superior to the control group in achievement, better in posture, and with fewer extraneous behavior patterns.

Children's Interests

Only such studies will be considered here as are significant to the relationship between teachers and pupils. Experienced teachers know that certain learning experiences click because children have a lively interest in the subject matter involved. Shane (46) reported that the child identifies his personal well-being with his interests, that children's interests can be identified, and that they can be used as a basis for improving the curriculum.

Kauffman (24) sought to determine whether there are peak interests of children and found that (a) interest in games and in psychological concerns increases with age; (b) boys are interested in service and technical occupations, and girls in office occupations and the entertainment field; (c) older boys prefer science and mathematics, and girls the language arts and social studies.

Savignano (44) reported on the planning, conducting, and evaluating of a program providing for children's interests. Hobbies or special interests were utilized in the education of 350 children in grades 4, 5, and 6. The differences in academic achievement and breadth of interest between this and a control group were found not statistically significant. In classroom adjustment and acceptance of individuals by the class, differences favored the experimental group.

Tyler (51) compared interests of 95 London children in a classroom equivalent to an American grade 5 with those of American children from three geographic sections. Correlations of .80 between item percentages indicated considerable similarity between English and American children. There was higher correlation, .84 to .89, among the three sections of the United States. Correlations of .46 and .47 between boys and girls within their two countries indicated less difference based on sex than on nationality grouping.

Studies concerned with teacher-pupil relationships in the various subject fields show many interesting factors. Peterson (36) studied the voluntary book, newspaper, and magazine reading interests of boys and girls. She found that reading interest was highest in grade 6 and lowest in grade 8,

most pupils selected books by browsing, girls read more than boys and held more library cards, and bright children read more and held more library cards than the average or the slow group.

Young (53, 54) ascertained children's science interests by such techniques as interest inventories, projection, "wondering" questions, film choices, children's essays, and collections.

Hill (19) reported that children have interests in science from a very early age. As the child grows older, his curiosity develops and these interests broaden.

Davis (11), using puppet plays and experience chart activities, investigated the effectiveness of group training methods for modifying certain behavior reactions of kindergarten children to given study tasks. He found it possible to modify children's reactions to school tasks early in the year by means of a puppet play technique. Other reports on concepts and values in relation to interest and adjustment include a study by Sprague (47) of the child's verbalized perception of his adjustment to school (case studies of 10 children); a description by Foshay and others (15) of a study conducted in Springfield, Missouri, on children's values; and the examination of developmental trends in children's concepts by Durkin (12).

Teacher-Pupil Planning

According to Collier (9), teacher-pupil planning means setting aside a period for group planning through discussion and evaluation. It requires preplanning by the teacher and greater leadership than a less democratic approach. Otto (35) believed pupil-teacher planning usable in connection with most elementary-school activities, and helpful in developing self-control, self-direction, critical thinking, responsibility, initiative, creativeness, and co-operation. Miel and others (33) devoted a book to the preparation, conduct, and evaluation of co-operative procedures in planning.

Beaty (3) sought to determine evidences of the use of group process in teacher-pupil planning as indicated by the roles group members played. The most prevalent pattern was for the pupils to give information, the teacher to ask questions, remarks to be directed to the teacher rather than to the group, and wide participation on the part of children. Alpren (2) concluded that teachers who wish to help their pupils learn to plan co-operatively must shift responsibility gradually.

Discipline and Democratic Organization

Hymes (21) found teacher-pupil relations affected by the behavior and misbehavior of pupils. His book provides guides for action. Stouffer and Owens (48) found undesirable behavior represented by what children do rather than by what they fail to do. As 25 years ago, teachers are still concerned with the problem child, but today they are more aware of social and emotional maladjustment.

Regan (40), on the basis of Adorno and Frenkel-Brunswick's *F Scale* and ratings of teachers, selected 10 teachers with authoritarian tendencies in the classroom and 10 with democratic tendencies. Four instruments were administered to 590 fifth- and sixth-grade children. He concluded that children under authoritarian teachers experienced more school-related fears. The dominant fears were of school in general, teachers, tests, specific subjects, grades, and marks.

McGee (28) found that the verbal responses of teachers to the scale for measuring authoritarianism were related to the measurable aspects of teachers' overt authoritarian behavior in the classroom.

Levin (26) gathered data for a study of the relations between parental child-rearing practices and certain aspects of the children's personality development. The subjects were five-year-old kindergarten children in two suburban communities. Tentative findings suggest that the nature of the relationships teachers establish with their pupils extends beyond the classroom.

Social Organization and Interaction

The nature of the teacher-pupil relationship is in part determined by the basic social structure surrounding it. Moustakas (34) discussed pupil-teacher relationships and interpersonal relations in the classroom. His premise was that the development of the right kind of relationship in the classroom could make teachers more effective and pupils better able to develop their potentialities. Jensen (22) outlined a seven-dimensional framework to analyze class productivity and class cohesiveness.

Polansky (37) hypothesized that power is implemented most effectively through recognized communication channels and that classroom climate is positively related to the teacher's support of group status systems. Bogen (5) examined the relationship between successful teacher leadership and the teacher-leader's awareness of power sources in the class. With certain exceptions, teachers with high rapport were significantly more aware of the status structure. Meeks (31) studied pupils' and teachers' judgments of interpersonal relations in the classroom, with five teachers and 188 pupils. Teachers identified pupils as "most and least popular" and "most and least effective," and pupils were given two sociometric tests. Teachers displayed moderate ability to identify the most popular and adjusted pupils according to pupil designation. Both pupils and teachers recognized the more obvious success features.

Gage, Leavitt, and Stone (16) tested 103 teachers and their fourth-, fifth-, and sixth-grade pupils to study the proposition that teachers should understand their pupils. Correlations of "understanding" measures and pupil ratings revealed only one significant correlation. It was between a given teacher's accuracy in predicting interpupil preference and the pupils' judgment that their teacher "knows which pupils you like best in this class" ($r=.28$). This accuracy score also correlated significantly ($r=.33$) with accuracy in predicting pupil problems.

It has been said that teachers favor high-status over low-status pupils. Hoehn (20) studied the classroom conduct of 19 third-grade teachers in two central Illinois communities, each a middle-class woman in charge of both middle-class and lower-class pupils. His findings did not support the hypothesis, but supported the belief that the quality of teacher contacts experienced by high-status pupils tends to be better from the mental hygiene standpoint than that of contacts experienced by low-status pupils. Henry (18) reported that middle-class pupils try to behave as they believe the teacher wishes them to. With lower-class children the teacher is a stimulus that unites the children against her.

Elkins (13) studied factors apparently related to the choice-status of 90 eighth-grade pupils and found some differences in behavior among the three choice-status levels. Highly chosen children were better natured and had more varied interests. Average chosen children displayed these behaviors but to a lesser degree. Seeking the connection between schoolwork and social relations, Buswell (7) conducted a study involving over 600 pupils in St. Paul, Minnesota. Her conclusion was that in an elementary classroom those who are succeeding in school will also be succeeding in their social relationships.

Teachers' Attitudes and Values

Symonds (49) found that pupils' rankings of their teachers agreed to the extent of correlations in the .70's to low .90's. Pupils' ratings of teacher relationships with pupils correlated with principals' ratings in the .70's. Similar ratings of teacher ability to secure pupil achievement correlated in the .40's. Comparison of observations of teachers ranked high with those ranked low showed that superior teachers liked children, inferior teachers disliked children; superior teachers were personally secure and felt adequate, whereas inferior teachers were personally insecure and had feelings of inferiority and inadequacy; superior teachers possessed a well-integrated personality organization, whereas inferior teachers tended to be disorganized.

Schrupp and Gjerda (45) re-examined certain conclusions, asserted by Wickman in 1928, regarding the attitudes of teachers toward behavior of children. Wickman's design was repeated insofar as was possible. The attitudes of 1951 teachers were much more in agreement with the criteria established by clinicians than were those in the earlier data. Disagreement with clinicians, however, did exist in that teachers were still more concerned with transgressions against orderliness than with traits associated with withdrawal. Aaron (1) similarly compared attitudes of today's teachers toward children's behavior with teachers' attitudes found by Wickman in 1928. The original Wickman scale was used, and the study was conducted in four New York City schools. Aaron found no significant differences between the rankings of serious behaviors. The serious problems related to the immediate teaching situation and were chiefly annoying, dis-

orderly, and aggressive behavior. Runke (42) investigated teachers' attitudes toward children's behavior as it expresses the culture pattern of the lowest social class. Teachers that Runke interviewed apparently did not understand that the behavior patterns exhibited by people could be expressions of particular social-class cultures.

Willard (52) sought to determine the relationship between the values teachers hold as indicated by their choices of valued courses of classroom action and the type of learning experiences provided under their guidance in the classroom. A sample of 53 teachers from California elementary schools was used. Tentative conclusions from this investigation include: (a) The value behaviors chosen by the teachers were related to their choices of classroom activities. (b) Teachers either believed or would like to believe that they provided the experiences in the observation list.

Data obtained by Russell and Thalman (43) indicated a positive relationship between the mark which a pupil received from a teacher, and the teacher's personality rating of the pupil. Studying teacher-pupil relationships, Rocchio (41) found that teachers of academic subjects secured higher attitude scores than teachers of nonacademic subjects.

By means of the *Minnesota Teacher Attitude Inventory* Cook, Leeds, and Callis (10) ascertained that the type of teacher-education institution attended is related to the teacher-pupil attitude. Results indicated that the attitude of teachers toward children reflects a grasp or lack of understanding of the principles of child development and behavior.

According to Harrington (17) the frequency with which a teacher smiles in a classroom situation is an aspect of behavior which can be easily and objectively measured.

Popham (38) found no significant relationships between the whole range of teachers' out-of-school activities and their attitude toward pupil-teacher relations; however, he did find that teachers' attitudes related to professional activities such as attendance at PTA meetings, membership on educational committees, and reading professional literature.

Other studies of interest include that of Ravitz (39), who investigated the relationship between the self-acceptance of teachers and their acceptance of pupils in a classroom situation, and Benson (4), who studied the ability of teachers to identify children needing help.

Needed Research

Much of the material presented in this chapter is descriptive and explanatory in nature. Substantial studies need to be conducted in the general area of teacher-pupil relationships. Specifically, research is needed on (a) what constitutes good classroom climate, (b) how interests of children affect the teacher-pupil relationships, (c) the fundamentals of teacher-pupil planning, (d) the fundamentals of democratic organization, and (e) the determinants of the social organization of the elementary classroom.

Bibliography

1. AARON, IDA S. *Teachers' Attitudes Toward Children's Behavior: A Study of Teachers' Attitudes Toward Children's Behavior Problems and Their Relationships to Pupil-Teacher Morals.* Doctors' thesis. New York: New York University, 1958. 163 p. Abstract: *Dissertation Abstracts* 19: 1024; No. 5, 1958.
2. ALPREN, MORTON. "Classroom Control and Pupil-Teacher Planning." *Educational Administration and Supervision* 43: 97-100; February 1957.
3. BEATY, BETTY. *Use of Group Process in Teacher-Pupil Planning of the Day's Activities in Grades One, Three, and Five.* Studies in Education, No. 8. Bloomington: Indiana University, School of Education, 1957. p. 27-31.
4. BENSON, GERALD P. *An Evaluation of Teacher Ability To Identify Maladjusted Children.* Doctor's thesis. Boulder: University of Colorado, 1956. 251 p. Abstract: *Dissertation Abstracts* 17 (Part 2): 1946-47; No. 9, 1957.
5. BOGEN, ISIDORE. *Pupil Teacher Rapport and the Teacher's Awareness of Status Structures Within the Group.* Doctor's thesis. New York: New York University, 1954. 133 p. Abstract: *Dissertation Abstracts* 14 (Part 1): 777-78; No. 5, 1954.
6. BUSH, ROBERT N. *The Teacher-Pupil Relationship.* New York: Prentice-Hall, 1954. 252 p.
7. BUSWELL, MARGARET M. "The Relationship Between the Social Structure of the Classroom and the Academic Success of the Pupils." *Journal of Experimental Education* 22: 37-52; September 1953.
8. CALLENDER, WESLEY P., JR. "Who Likes Whom? Study of Pupil and Teacher Preferences." *Clearing House* 29: 490-92; April 1955.
9. COLLIER, CALHOUN C. "We Believe in Teacher-Pupil Planning." *NEA Journal* 43: 315; May 1954.
10. COOK, WALTER W.; LEEDS, CARROLL H.; and CALLIS, ROBERT. "Significant Factors in Teacher's Classroom Attitudes." *Journal of Teacher Education* 7: 274-79; September 1956.
11. DAVIS, DAVID C. *A Group Technique for the Modification of Certain Behavior Reactions: Kindergarten Level.* Doctor's thesis. Iowa City: State University of Iowa, 1958. 190 p. Abstract: *Dissertation Abstracts* 18: 2075-76; No. 6, 1958.
12. DURKIN, MARY D. *Children's Concepts of Certain Aspects of Justice.* Doctor's thesis. Urbana: University of Illinois, 1957. 167 p. Abstract: *Dissertation Abstracts* 17 (Part 2): 2495; No. 11, 1957.
13. ELKINS, DEBORAH. *Some Factors Related to the Choice-Status of Ninety Eighth-Grade Children in a School Society.* Doctor's thesis. 351 p. Storrs: University of Connecticut, 1955. Abstract: *Dissertation Abstracts* 15 (Part 2): 1541-42; No. 9, 1955.
14. FARNSWORTH, DANA. "Emotions and Learning." *Harvard Educational Review* 25: 95-104; No. 2, 1955.
15. FOSHAY, ARTHUR W., and OTHERS. *Children's Social Values: An Action Research Study.* Horace Mann-Lincoln Institute of School Experimentation Publication. New York: Teachers College, Columbia University, 1954. 323 p.
16. GAGE, N. L.; LEAVITT, GEORGE S.; and STONE, GEORGE C. *Teachers' Understanding of Their Pupils and Pupils' Ratings of Their Teachers.* Psychological Monographs: General and Applied, Vol. 69, No. 406. Washington, D. C.: American Psychological Association, 1955. 37 p.
17. HARRINGTON, GORDON M. "Smiling as a Measure of Teacher Effectiveness." *Journal of Educational Research* 48: 715-17; May 1955.
18. HENRY, JULES. "Docility, or Giving Teacher What She Wants." *Journal of Social Issues* 11: 33-41; No. 2, 1955.
19. HILL, KATHERINE E. "The School and the Child's Science Interests." *Science Education* 40: 203-206; April 1956.
20. HOEHN, ARTHUR J. "A Study of Social Status Differentiation in the Classroom Behavior of Nineteen Third Grade Teachers." *Journal of Social Psychology* 39: 269-92; May 1954.
21. HYMES, JAMES L., JR. *Behavior and Misbehavior: A Teacher's Guide to Action.* Englewood Cliffs, N. J.: Prentice-Hall, 1957. 140 p.
22. JENSEN, GALE E. "The Social Structure of the Classroom Group: An Observational Framework." *Journal of Educational Psychology* 46: 362-74; October 1955.

23. JOHNSON, ORVAL G. "Teacher's Role in Providing a Climate To Grow." *NEA Journal* 46: 233-36; April 1957.
24. KAUFFMAN, MERLE M. *Expressed Interests of Children in Relation to a Maturity-Age Index in Grades Four Through Eight.* Doctor's thesis. Evanston, Ill.: Northwestern University, 1955. 215 p. Abstract: *Dissertation Abstracts* 15 (Part 2): 2074; No. 11, 1955.
25. KEPHART, NEWELL C., and FLOYD, WILLIAM. "Classroom Environment and Pupil Welfare." *Journal of Educational Psychology* 45: 52-59; January 1954.
26. LEVIN, HARRY. "Influence of Classroom Control on Kindergarten Children's Fantasy Aggression." *Elementary School Journal* 55: 462-66; April 1955.
27. LEVIN, HARRY; HILTON, THOMAS L.; and LEIDERMAN, GLORIA F. "Studies of Teacher Behavior." *Journal of Experimental Education* 26: 81-91; September 1957.
28. MCGEE, HENRY M. "Measurement of Authoritarianism and Its Relation to Teachers' Classroom Behavior." *Genetic Psychology Monographs* 52: 89-146; August 1955.
29. MALPASS, LESLIE F. "Some Relationships Between Students' Perceptions of School and Their Achievement." *Journal of Educational Psychology* 44: 475-82; December 1953.
30. MEDLEY, DONALD M., and KLEIN, ALIX A. *Studies of Teacher Behavior: Inferring Classroom Behavior from Pupil Responses.* Research Series No. 30. New York: Board of Higher Education of the City of New York, 1956. 16 p.
31. MEEKS, KENNETH L. *Teacher and Pupil Judgments of Interpersonal Relations in the Classroom.* Doctor's thesis. Stanford, Calif.: Stanford University, 1956. 251 p. Abstract: *Dissertation Abstracts* 17 (Part 1): 65; No. 1, 1957.
32. MEYER, WILLIAM J., and THOMPSON, GEORGE G. "Sex Differences in the Distribution of Teacher Approval and Disapproval Among Sixth-Grade Children." *Journal of Educational Psychology* 47: 385-96; November 1956.
33. MIEL, ALICE, and OTHERS. *Cooperative Procedures in Learning.* New York: Teachers College, Columbia University, 1952. 512 p.
34. MOUSTAKAS, CLARK E. *The Teacher and the Child: Personal Interactions in the Classroom.* New York: McGraw-Hill Book Co., 1956. 265 p.
35. OTTO, HENRY J. *Social Education in Elementary Schools.* New York: Rinehart and Co., 1956. 493 p.
36. PETERSON, MIRIAM E. *Reading Preferences and Interests of Pupils in the Chicago Public Elementary School, Grades V-VIII.* Doctor's thesis. Evanston, Ill.: Northwestern University, 1955. 534 p. Abstract: *Dissertation Abstracts* 15 (Part 2): 2492; No. 12, 1955.
37. POLANSKY, LUCY G. *Group Social Climate and the Teacher's Supportiveness of Group Status Systems.* Doctor's thesis. New York: New York University, 1954. 202 p. Abstract: *Dissertation Abstracts* 15 (Part 1): 243-44; No. 2, 1955.
38. POPHAM, W. JAMES. *Relationships Between Out-of-School Activities of Teachers and Their Attitudes Toward Pupil-Teacher Relations.* Doctor's thesis. Bloomington: Indiana University, 1958. 111 p. Abstract: *Dissertation Abstracts* 18: 992; No. 5, 1958.
39. RAVITZ, LEONARD A. *Teacher Self-Acceptance Related to Acceptance-of-Pupils in the Classroom.* Doctor's thesis. College Park: University of Maryland, 1957. 158 p. Abstract: *Dissertation Abstracts* 18: 459; No. 2, 1958.
40. REGAN, JOHN F. *The School Connected Fears of Children Under Authoritarian and Democratic Teachers.* Doctor's thesis. New York: New York University, 1958. 200 p. Abstract: *Dissertation Abstracts* 18: 2079; No. 6, 1958.
41. ROCCHIO, PATRICK D. *Teacher-Pupil Attitudes as Related to Teachers' Personal Characteristics and Pupil Adjustment.* Doctor's thesis. Minneapolis: University of Minnesota, 1954. 382 p. Abstract: *Dissertation Abstracts* 16 (Part 1): 711-12; No. 4, 1956.
42. RUNKE, RUTH J. *Teachers' Attitudes Toward Children's Behavior as It Expresses the Culture Patterns of the Lowest Social Classes in Certain Indiana Cities.* Doctor's thesis. Abstract: *Studies in Education, 1954.* Vol. 6. Bloomington: Indiana University, School of Education, 1955. p. 189-92.
43. RUSSELL, IVAN L., and THALMAN, W. A. "Personality: Does It Influence Teacher's Marks?" *Journal of Educational Research* 48: 561-64; April 1955.

44. SAVIGNANO, LEONARD J. *An Evaluation of the Effect of Children's Specialties on Classroom Enrichment in Grades Four, Five and Six.* Doctor's thesis. Boston: Boston University, School of Education, 1956. 261 p. Abstract: *Dissertation Abstracts* 16 (Part 2): 2409-10; No. 12, 1956.
45. SCHRUPP, MANFRED H., and GJERDA, CLAYTON M. "Teacher Growth in Attitudes Toward Behavior Problems of Children." *Journal of Educational Psychology* 44: 203-14; April 1953.
46. SHANE, HAROLD G. "Children's Interests: How Do They Affect the Elementary Curriculum." *NEA Journal* 46: 237-39; April 1957.
47. SPRAGUE, ELFLEDA. *An Exploratory Study of Kindergarten Children's Perception of Their Adjustment to School.* Doctor's thesis. Syracuse, N. Y.: Syracuse University, 1955. 345 p. Abstract: *Dissertation Abstracts* 17 (Part 2): 2505; No. 11, 1957.
48. STOUFFER, GEORGE A. W., JR., and OWENS, JENNIE. "Behavior Problems of Children as Identified by Today's Teachers and Compared with Those Reported by E. K. Wickman." *Journal of Educational Research* 48: 321-31; January 1955.
49. SYMONDS, PERCIVAL M. "Characteristics of the Effective Teacher Based on Pupil Evaluations." *Journal of Experimental Education* 23: 289-310; June 1955.
50. TABA, HILDA. *With Perspective on Human Relations: A Study of Peer Group Dynamics in an Eighth Grade.* Studies in Intergroup Relations. Washington, D. C.: American Council on Education, 1955. 155 p.
51. TYLER, LEONA E. "Comparison of the Interests of English and American School Children." *Journal of Genetic Psychology* 88: 175-81; June 1956.
52. WILLARD, RUTH A. "A Study of the Relationship Between the Valued-Behaviors of Selected Teachers and the Learning Experiences Provided in Their Classrooms." *Journal of Educational Research* 49: 45-51; September 1955.
53. YOUNG, DORIS. "Identifying and Utilizing Children's Interests." *Educational Leadership* 13: 161-65; December 1955.
54. YOUNG, DORIS. "Some Techniques for Identifying Children's Science Interests." *School Science and Mathematics* 57: 462-64; June 1957.

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